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Ontario

Royal Commission on Matters of
Health and Safety Arising from
the Use of Asbestos in Ontario

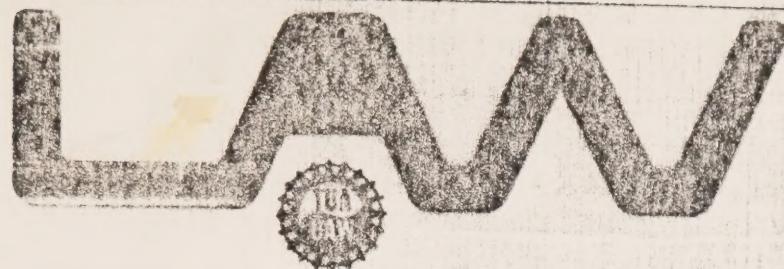
Submissions

v. 4

ROYAL COMMISSION ON ASBESTOS

BINDER VOLUME NUMBER: 4

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036	United Electrical, Radio and Machine Workers of America	Labour	I Health II Workplace III Building IV Other V Institutional	Yes	Yes
037	Mrs. Odette Dodds	Labour	I Health II Workplace	Yes	Yes via AW
038	Ontario Association of School Officials	Government	I Health III Buildings V Institutional	Yes	No
039	Stelco Inc.	Industry	I Health II Workplace III Buildings V Institutional	No	No



Government
Publications

34

**International Union, United Automobile,
Aerospace and Agricultural Implement
Workers of America (UAW)**

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PRESENTATION TO THE
ROYAL COMMISSION ON MATTERS OF
HEALTH ARISING FROM THE USE OF
ASBESTOS IN ONTARIO

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INITIAL PRESENTATION TO THE
ROYAL COMMISSION ON MATTERS OF HEALTH
AND SAFETY ARISING FROM THE USE OF
ASBESTOS IN ONTARIO

by

INTERNATIONAL UNION, UNITED AUTOMOBILE, AEROSPACE &
AGRICULTURAL IMPLEMENT WORKERS OF AMERICA (UAW)

35 YEAR OLD EMPLOYEE OF BENDIX BECOMES 13th VICTIM OF ASBESTOS

WINDSOR (CP) — A 35-year-old man has become the 13th victim to die of an asbestos-related cancer after working at one of the two Windsor plants of Bendix Corp., the man's union representative and closest friend says.

Tommy Dunn, who worked for almost 12 years in the welding department of one of the plants, died on Saturday.

Doctors operated on Mr. Dunn in December, 1979, for mesothelioma, a rare form of inoperable cancer linked to asbestos fibres. They discovered two tumors in an advanced stage in his lung and gave him a maximum of two years to live.

Rick Byrne, former plant chairman for Local 195 of the United Auto Workers, who worked with Mr. Dunn for 11 years, and other union negotiators have taken the cases of 19 Bendix workers to the Workmen's Compensation Board.

Thirteen of the 19, including Mr. Dunn, have died of asbestos-related diseases.

Mr. Byrne said Mr. Dunn asked him to check with the board to see whether he was eligible for benefits. After long negotiations, the board decided Mr. Dunn's illness made him suitable for compensation and he received payment retroactive to November, 1979.

However, Bendix, which uses

asbestos in the manufacture of automobile brake linings, has never acknowledged that it was directly responsible for Mr. Dunn's illness. Mr. Byrne said Mr. Dunn was one of those concerned that Bendix did not completely comply with a 1966 Government request to clean up its plants.

"They were supposed to clean it up in 1966 and Tommy didn't know why they didn't clean it up."

Now, however, Mr. Byrne said that although the union has made some headway, negotiations will be tougher because Bendix closed its two Windsor plants last August.

"What can you change now they're gone."

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The foregoing news story is one that is becoming all too common in Ontario but it serves very well to illustrate the concern of our Union and the direction we wish to take in this and subsequent presentations to this Royal Commission.

Our Union represents over 100,000 workers in the Province of Ontario, workers in a wide variety of occupations in motor vehicle manufacturing, parts and assembly, aerospace, electronics, machinery manufacturing and chemicals, to name but a few, workers that are subject to the exposure of asbestos because of its widespread use in construction insulation and manufacturing. However, we wish at this time to zero in on the history of our involvement with one manufacturer, Bendix Automotive Corporation, with which we had collective bargaining rights.

This case study will give a detailed review of our concerns arising from the use of asbestos and our deep frustrations in bringing some resolve to the situation.

In specific:

- 1) asbestos in the workplace
- 2) adequate standards
- 3) enforcement of standards, etc. and
- 4) recording and presentation of information

In doing so, we hope to convey to the Commission not only the deep anguish felt by an increasing number of our members who suffer the effects of exposure to asbestos but also the profound frustration of our Union in dealing with this problem under the present legislative statutes and regulatory bodies.

We will be confining our presentation to the workplace situation and while in the case of Bendix workers a lot of our energies are now concerned with securing compensation which will be detailed to this

Commission at another phase of your deliberation. The problems we faced in cleaning up this one workplace are, we submit, symptomatic of the overall occupational situation.

In making this presentation and in the evidence to be given by the witnesses, we hope to avoid the customary rhetoric and instead give clear and factual examples of problems as we experienced them and our recommendations for resolving them.

BENDIX AUTOMOTIVE CORPORATION - WINDSOR - LOCAL 195 UAW

HISTORY

Bendix Automotive has been operating in Windsor since the early 1920's when it purchased Eclipse Machine of Canada at 1473 Argyle Road. Recently, the Company operated two plants in Windsor. In addition to the original location on Argyle Road, Bendix opened a second plant at 945 Prince Road, in 1964. The Company has employed up to 650 workers at these two locations in Windsor all performing work related to brake shoe production and assembly.

The employees at the Argyle Road plant started making brakes for army tanks in 1940 and since 1945 have been making brake shoes and brake shoe linings for automobiles and trucks.

In 1964 Bendix started the second plant at the Prince Road location in Windsor and transferred the asbestos brake lining department to that location. Around 1972, processing of the asbestos brake lining was moved back to Argyle Road. Throughout this period from 1945 to closing, except for minor technological advances, the process has remained the same.

Brake linings, made mostly of chrysotile asbestos, are drilled then riveted to brake shoes. The linings are then tapered by turning them on grinding wheels. Initially, the grinding was done using hand-held grinders. Later, the employee inserted the brake shoe and lining

onto the grinding machine, then operated the machine so that the shoe turned on the grinding wheel. Both versions of the grinding operation required handling of the shoe and lining by the employee, as did the drilling and rivetting operations. All stages of the brake lining operation -- drilling, rivetting, grinding, inspecting packing, involve exposure to asbestos dust.

At closing, the drilling, rivetting and grinding were done at the Argyle Rd. plant. The shoes were inspected and packed by hand into wire-bound boxes or steel cages, then shipped to the Prince Road plant where complete brakes are assembled. Thus, employees were exposed to asbestos at both plants.

The techniques used to control the amount of asbestos dust present in the air in the work place can best be described by looking at two periods -- pre-1977 and post-1977. The year 1977 is significant because it was then that certain steps were taken to recognize and alleviate the dangers of asbestos dust exposure. The improvements in the dust control techniques were the result of Union efforts in raising the problem at the collective bargaining table during contract negotiations.

Concerned with the welfare of the employees at Bendix and the inaction of the Company and the Ministry of Labour, Local 195 instigated the improvements in dust control techniques.

Initially, when the Company started its brake lining operation, ventilation in the plant was inadequate and most hand grinders did not have local exhaust systems. The employees attempted to combat the dust by wrapping handkerchiefs around their faces.

When an exhaust system was added, it was located inside the department but did not exhaust the dust out of the building at all. Instead, the dust fell into an open box which was usually changed only when it over-flowed. When the company converted to a dust-collector bag system (1974-1977) these were also located inside the building and the bags became clogged with dust at least three times per day. At these

times the bags were unclogged by shaking, and it was usual for a cloud of asbestos to fall back out of the exhaust system during this shaking operation. Due to the large amounts of airborne asbestos dust, the employees usually had to leave the department when this occurred.

Prior to 1977, dry sweeping of dust and the use of air hoses to blow away fallen dust, were the only methods used to clean the machines and work areas. Today these methods are recognized as being hazardous to health.

Respirators were available for several years but they were not compulsory and often proved ineffective. In fact, until 1977, the company issued to employees the wrong type of respirators - i.e. - Safety Mask No. 505 from Safety Supply Co., which were designed only for protection against nuisance dusts and non-toxic dusts. The Union's safety representative -- (representation gained through the 1977 contract negotiations) complained to the Health & Safety Manager - Gordon Detenbeck. Mr. Detenbeck later ordered the respirators which were subsequently used. (3M Co., No. T-21C-132).

It is submitted that the 1977 methods of dust control presented a situation in the workplace characterized by high exposure to airborne asbestos particles. Furthermore, throughout this period, the approach taken by the Company and the relevant governmental agencies seemed to be to ignore the problem, or at best, to take stop-gap measures to alleviate it. No air sampling results are on file prior to 1975. Only when the issue arose at the bargaining table did it receive the attention it warranted.

In a submission made to the Ministry of Labour in August 1979 it was argued that most of the methods spelled out by the Ministry of Labour "Data Sheet" on asbestos dust control were not being enforced. For example, the female employees' change room also serves as a lunch room, despite the recognized risk of ingesting asbestos dust. Employees have two lockers for work clothes and street clothes, but these lockers

are not separated as recommended in the "Data Sheet". The company provides only a smock covering to wear over the workers' clothes but did not provide other protective clothing as generally recommended.

In addition, almost all employees have to walk through the asbestos department when reporting to work due to the location of the employees' time clock. This aisle, serves as the main walkway through the plant.

It was further argued that any attempt to leave the asbestos in the workplace would fail with such loose enforcement of the "data sheet" guidelines.

The workplace itself was not free to risk because all possible steps have not been taken to control dust -- i.e. covered containers for asbestos dust were not available and the brakeshoes were not vacuum cleaned before packing and shipping, as is recommended in the Ministry of Labour Asbestos Data Sheet.

Also, our Union stated that medical testing programs initiated by the Ministry of Labour and the Company were, to say the least, inadequate.

For example, the Company participated in the Industrial Chest Disease Service X-Ray program, but despite the fact that almost all employees in the two plants were exposed to asbestos daily, the company allowed only selected individuals to be tested. This X-Ray testing was done to an eighteen month cycle. The Company gave the I.C.D.S. a list of only seventy employees who, at that time, worked in the asbestos brake lining department of the Argyle plant. The list did not include the fact that all employees walked daily through the main aisle of the plant which runs through the asbestos department, or that employees may have been exposed to dangerous levels of dust in the past, but who did not presently work in the asbestos department.

In one instance, in 1977, an employee was tested by X-Ray which showed spots on his lungs. He subsequently went to the I.O.D.E. hospital

for a follow-up, but no report was ever made available to him. He was never X-Ray tested again because shortly afterward he posted out of the job from which the company selects those to be X-Rayed. However, he worked as a sweeper and still encountered asbestos dust daily.

Our dissatisfaction with regulatory agencies were, to say the least, unsatisfactory at all times. Time and time again inspections were made, orders were given and were promptly ignored. In an appendix to this submission you will find copies of Inspection Reports from April 1966 with some appropriate comments entered by Local Union Health and Safety Representatives. It is quite clear that the Company chose a deliberate course of ignoring directions, weak as they were, when we examine the following from the April 1966 Report.

"Housekeeping shall be improved in the brake lining shop. All settled dust shall be moved by vacuuming or wet cleaning. No dry sweeping shall be permitted." (Emphasis added) and note that dry sweeping was continued until 1977.

That, then, is but a brief resume of our difficulties with Bendix Automotive Corporation and the Ontario Government. Pressure to improve the situation and secure Workmens' Compensation benefits was a constant factor in our Union's activity.

However, the Company continued to ignore or at least minimize the situation as evidence by the following communication from the Director of Employee Relations on June 4, 1979.

"To: All Personnel
Bendix Automotive of Canada, Ltd.

For your information, the following statement was released by the Corporation regarding the asbestos situation at Bendix Automotive of Canada, Ltd.:

|| 'We have no evidence to establish that exposure to asbestos caused cancer in any of our employees.

|| 'Our plants in Windsor operate well within the limits of the Canadian government's guidelines covering asbestos levels in the workplace. Indeed, before Canada adopted these measures,

Bendix in the interest of workers at our Windsor facilities, voluntarily required these plants to operate within the strict standards established by the U.S. Occupational Safety and Health Administration.

'The provincial government routinely inspects these plants and, on a regularly scheduled basis, runs tests on our employees. The pertinent medical information resulting from these inspections and test is kept by the provincial government.

'In its most recent test at our plants, this month, the Ontario Ministry of Labour found that the quality of the air, in terms of the numbers of asbestos fibers present, was well within the Canadian standards.

'Bendix, of course, will co-operate with any study of our plant environment by either the provincial or Canadian federal government'."

ON JUNE 20th, 1979 BENDIX ANNOUNCED THAT IT WAS
CLOSING DOWN ITS WINDSOR OPERATION.

JG/rhe
opeiu343
Jan. 26/81

BIOLOGICAL EFFECTS

In our submission to the Ontario Workmen's Compensation Board in June 1979, we stated in part:

"Recently it has come to the attention of concerned officials at Local 195, United Auto Workers, that since 1978 three union members (since expanded) - all long term employees of Bendix Automotive of Canada, have succumbed to the effects of cancer of the larynx. This pattern is very significant when seen in the light of recent findings concerning asbestos-related industrial disease.

"The first of these employees was Henry Bednarick, who died in December 1973, after 33 years of service with Bendix. The last day worked by Mr. Bednarick was July 7, 1973. At the time of his death he was receiving sickness insurance benefits and had not yet retired. He was 57 years old when he died.

"Nelson Masse, a man with 35 years of employment at Bendix died from cancer of the larynx on March 4, 1977; - (See Item No. 1 - Appendix A). Mr. Masse last worked on August 8, 1975 and was on pension from that date until his death. He was 62 at the time of his death.

"The most recent case was Edward Rogers, who died from cancer of the larynx on May 4, 1979, at the age of 63. Mr. Rogers had worked at Bendix for fourteen years. His last day at work was October 6, 1977 and he had been on a disability pension since July 1, 1978. Between October, 1977 and July 1978, it appears that Mr. Rogers was receiving sickness insurance benefits and was unable to work due to cancer of the larynx.

"All three of these employees were forced into premature retirement or disability benefits; all three of these men worked in and around the asbestos brake shoe lining department at the Bendix Automotive Argyle Rd. plant. Mr. Bednarick was a maintenance man, servicing the machines used to drill, rivet and grind asbestos brake linings. Mr. Masse inspected the brake linings and travelled throughout the department. Mr. Rogers was also an inspector and his job included packing the brake shoes once they had been ground and he had finished his inspection.

"It is a recognized fact that exposure to asbestos dust in the workplace brings a high risk of contracting asbestosis, as well as various types of cancer. Recent studies have pointed to asbestos exposure, including chrysotile asbestos as a cause of cancer of the larynx.

"It is submitted that exposure to asbestos dust led directly to the cancer of the larynx which eventually caused the deaths of the Bendix employees in question."

Of specific interest in the Bendix cases is the general recognition that the manufacture, assembly and repair of asbestos brake shoe linings presents a high risk of asbestos related disease.

All of the research points to the fact that asbestos related diseases are characterized by a long period of latency, often not appearing until twenty to thirty years after exposure. The experts also agree that, as yet, all of the long term effects of asbestos are not known and more asbestos related diseases can be expected to emerge in the near future, as the long latency period draws to an end for employees who were exposed to asbestos in the 1940's.

On the basis of the medical research contained in the body and appendixes of this brief, it is submitted that:

- (1) Exposure to asbestos dust in brake shoe lining manufacture presents a high risk of asbestos related disease.
- (2) There is strong evidence to support the conclusion that exposure to asbestos dust, even at levels lower than the current standard of 2 fibres/cubic centimetre can lead to asbestos related cancers. While present standards may supply some protection against the fibrogenic effects of asbestos dust, they do not eliminate the carcinogenic effects of exposure. Note that at the current standard it is permissible to be exposed to 2 million asbestos fibres per cubic metre of air in the workplace. Also note that asbestos fibres cannot be broken down by the body but rather they remain in the body and become lodged in lung and throat tissue where after a long period they can have fatal effects.
- (3) It is medically established that exposure to asbestos can cause cancer of the larynx.
- (4) The pattern of exposure and long period of latency in the workers who died after many years of service at Bendix fits the general pattern of those who have died from asbestos induced cancer of the larynx in the medical reports included in this brief.

On the basis of the medical reports already described and considering the lengthy period of inadequate dust control measures (1940 - 1977) at Bendix Automotive, it is submitted that the three documented instances of cancer of the larynx are directly attributed to exposure to asbestos dust in the workplace.

It is further submitted that these three instances may only represent the "tip of the iceberg" resulting from exposure to carcinogenic asbestos fibres at Bendix.

We do not intend to list all the latest scientific papers that confirm the link between asbestos exposure and adverse biological effects on the human body. We instead draw your attention to the N.I.O.S.H. revised recommended asbestos standard (1126) and the N.I.O.S.H. Document No. 81-103, Workplace Exposure to Asbestos, Review and Recommendations (1980), which review relevant and timely studies in this area.

The latter document states:

" HUMAN OCCUPATIONAL EXPOSURES TO ALL COMMERCIAL ASBESTOS FIBRE TYPES, BOTH INDIVIDUALLY AND IN VARIOUS COMBINATIONS, HAVE BEEN ASSOCIATED WITH HIGH RATES OF ASBESTOSIS, LUNG CANCER, AND MESOTHELIOMA."

Other research has pointed to cancers at other sites.

The Ontario Workmen's Compensation Board recognizes the relationship between cancer of the larynx and asbestos.

The evidence is sufficient we maintain to proceed with stringent measures to alleviate the problem. We do not need to wait for further studies to take action.

STANDARDS

ASBESTOS IS A CARCINOGEN

"Available data show that the lower the exposure, the lower the risk of developing asbestosis and cancer. Excessive cancer risks, however, have been demonstrated at all fiber concentrations studied to date. Evaluation of all available human data provides no evidence for a threshold or for a "safe" level of asbestos exposure. Accordingly, the committee recommends that, to the extent uses of asbestos cannot be eliminated or less toxic materials substituted for asbestos, worker exposures to asbestos must be controlled to the maximum extent possible." (N.I.O.S.H. Publication 81-103)

"Excessive cancer risks have been demonstrated at all fiber concentrations studied to date. Evaluation of all available human data provides no evidence for a threshold or for a "safe" level of asbestos exposure." (N.I.O.S.H. Publication 77-169).

It is our contention in light of the evidence available to us that we should be talking about a policy on carcinogens of which asbestos is possibly the best known in both occupational and environmental situations.

A prime criterion of such a policy would be a program to eventually eliminate exposure to known or suspected carcinogens.

Our Union has cooperated with other labour groups in responding to proposed standards and the most recent submission by the Ontario Federation of Labour on asbestos to the Government of Ontario which follows, has our endorsement.

ASBESTOS

As we stated in our first submission to the Ministry, asbestos is perhaps the best known human carcinogen. Therefore the hygiene limit must be zero.

Both NIOSH in the U.S. and the British Advisory Committee on Asbestos have concluded in the last year that there is no safe level of exposure to asbestos and that every effort must be made to reduce the exposures to as small "as is reasonably practicable" or the "lowest feasible level".

Both groups have emphasized the substitution of safe alternatives.

We, therefore, recommend the lowering of the asbestos level to "the lowest detectable level" for all types of asbestos with a policy of gradual compulsory substitution of safe, tested alternatives. There is evidence from NIOSH that phase contrast microscopy can measure levels as low as 0.001 F/cc.

Special attention must be given to the demolition of buildings with asbestos insulation and for the removal of asbestos in buildings and the disposal of asbestos waste. Very stringent engineering controls, work practices, and personal protective equipment must be developed for these jobs.

The definition of "fibre" in this regulation ignores the fibres of less than 5 microns in length which are not seen by phase contrast microscopic methods. There are estimates that for every fibre of more than 5 microns in length there are 100 smaller fibres which are certainly dangerous and cannot be ignored in setting numerical standards.

We reject the differentiation made between fibre types and the adoption of the British Advisory Committee's recommendations without reference to the emphasis on substitution.

Chrysotile, amosite, crocidolite and anthophyllite are all demonstrated human carcinogens. The laxer TWA for chrysotile asbestos was based on the grounds that it rarely causes mesothelioma. Julian Peto, a prominent asbestos researcher at Oxford University rejects outright that assumption and certainly Irving Selikoff, the world's leading asbestos researcher, in a letter that was submitted in our original brief rejected such distinctions.

Even the British Advisory Committee saw that a level of 1 F/cc for chrysotile asbestos would mean an excess in deaths of between 0.02 and 1.25 over a lifetime of work. This risk is clearly not acceptable to those of us in the labour movement.

All asbestos types are carcinogens and therefore must be controlled to levels that are "the least detectable" with every attempt to substitute safer alternatives.

We emphasize the need for regulated hygiene facilities for asbestos workers in line with the general comments before.

We also wish to emphasize that the medical monitoring of asbestos workers proposed only identifies lung impairment, it is not preventative. It must be accompanied by a full medical removal protection program and not the present inadequate WCB attempts at rehabilitation.

The International Metal Federation, a world-wide labour organization to which the U.A.W. is affiliated undertook an exhaustive study on asbestos exposure and has come up with the following program:

1. The objective of the IMF is to eliminate exposure of workers and community to asbestos.
2. Wherever a less hazardous substitute exists the use of asbestos should be abandoned and the substitute used.
3. There should be no exposure to asbestos at any level that can be prevented by currently available hygiene measures.

4. At this time, no worker should be exposed to air concentrations exceeding 100,000 fibers/m³. If this cannot be achieved the use must be abandoned.
5. There is inadequate information about the safety of inorganic substitute fibers but there are data indicating that at least some are carcinogenic. Therefore, equally rigorous hygiene precautions should be taken pending fuller evaluation.

which we endorse and recommend to this Commission.

RECORD KEEPING

Record Keeping and Detection Programs

"If only a fraction of the reports are eventually substantiated, we still face a public health problem of major dimension. If we wait for the final reports before deciding to warn workers of the possible risks, and before taking protective actions, we will lose years of opportunity and sacrifice dozens or hundreds of lives.

"We will not relieve the companies and government agencies of their responsibilities in this area. But recent experience shows that we cannot always rely on either for a rapid response to concerns of workers. The UAW needs the independent capacity to investigate quickly and in a planned way." - UAW President Douglas Fraser

The above is a forward to a UAW manual for detecting cancer on the job. It is our feeling that we as a union representing workers who may be at risk cannot always wait for governments and companies to act. We therefore have developed an investigative program that begins on the shop floor. However, we can use the Bendix case as an example of uncooperation on the part of management. The local union was aware of the possibility of health problems in addition to the ones cited in its submission to the Ontario Workmen's Compensation Board and in an effort to elicit information from Bendix, the following correspondence ensued:

"Mr. Gordon Detenbeck,
Manager of Health & Safety,
Bendix Automotive of Canada,
Box 2400,
Windsor, Ont. N8Y 4X3

Dear Sir:

"We would sincerely appreciate you supply us with a morbidity table of all Bendix Automotive of Canada (Windsor) employees who have succumbed to cancer.

"It is imperative that this be given your earliest possible attention and same to be submitted to the writer as the Health & Safety Representative, Local 195, U.A.W., Bendix Automotive Unit.

"Your attention to this matter would be greatly appreciated, as it will be used for research purposes.

Yours very truly,
(signed)

John D. McCann,
Health & Safety Rep.,
Local 195, U.A.W.,
Bendix Unit."

"Attention: Mr. Jack McCann

16.

Dear Mr. McCann:

"After careful consideration of your request asking that we provide you with the number of Bendix employees who have died of cancer, the type, whether male or female, and if possible, the names of those employees, we have decided to forward your request to the Corporate legal staff.

"Our concern is that this information may be personal and confidential.

Yours very truly,

(signed)

G. L. Detenbeck

Mgr., Safety, Health & Security"

No further information was forthcoming.

It should be noted that we also subscribe to the argument of confidentiality of health records, we can only view the foregoing as a deliberate stall.

At the time of closure, one of our major concerns was and still is, the present health and possible future illnesses of our members due to their exposure to asbestos.

At this time we are uncertain as to the validity of studies that we can expect from Bendix and the Ontario Government, both having promised some action in this area.

In this regard we wish to draw the Commission's attention to what we perceive as inadequate provisions to guarantee retention of records.

The duties of employers to keep minimum records of employee work histories is to the best of our knowledge contained in the Employment Standards Act. Our recent experience with a company other than Bendix, which moved its records out of Canada upon closing its operations in Ontario makes us skeptical of promises of health studies in closure and other situations.

We would therefore recommend that this Commission give immediate consideration to:

- || (1) conducting a prompt exploration of existing legislation on records keeping requirements, both medical and work history;
- || (2) making interim recommendations to the Ontario Government for legislative amendments. In doing so, we would ask you to recommend provisions that would remove any ambiguity over the rights of workers and their unions to obtain such information, subject of course, to ethical confidentiality provisions.

In conclusion, we wish to reiterate some of our observations:

- (1) The adverse medical effects are widely known;
- (2) No safe level of exposure exists.

Therefore, the only remedy is eventual removal from use.

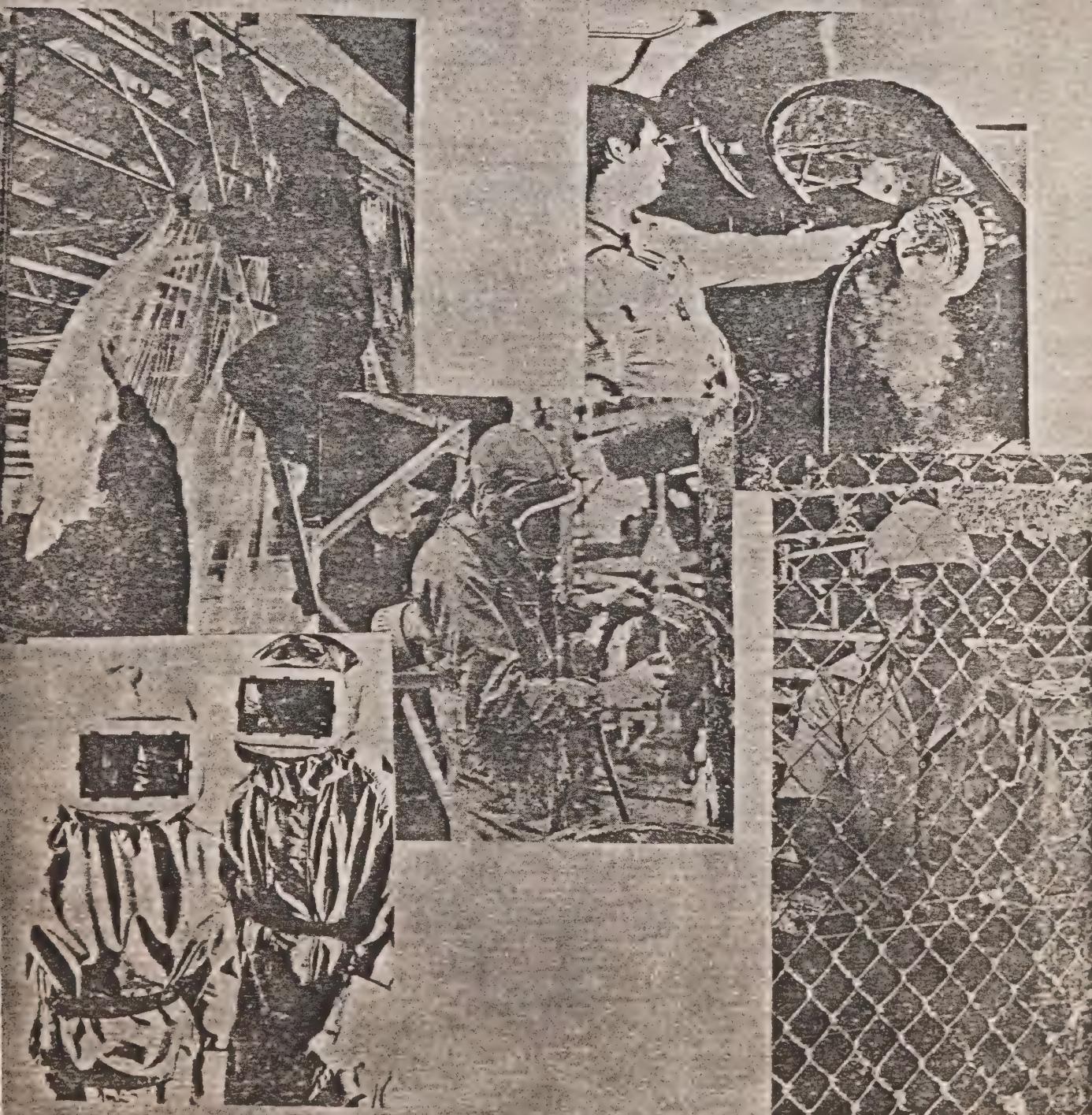
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ONTARIO FEDERATION OF LABOUR
JANUARY, 1981

submission to

35

ROYAL COMMISSION ON MATTERS OF HEALTH AND SAFETY ARISING FROM THE USE OF ASBESTOS IN ONTARIO



ERRATUM

1. pp.20 Eight employees in the public sector have been compensated for mesothelioma, and one for asbestosis at Lakehead Psychiatric Hospital.
2. pp.49 By March 3, 1979, 433 of the some 3,000 miners in all asbestos mines had been looked at.
3. pp.62 The widow's pension is \$410.00 per month.

I Introduction

The Ontario Federation of Labour represents 800,000 organized workers in this province and it is clear that we have a substantial and direct interest in the subject matter before this Royal Commission on Matters of Health and Safety Arising from the Use of Asbestos in Ontario, since it is our members and working people generally, who make up what Dr. Dupré referred to as "the human tragedy background to an inquiry such as this".

For decades now, many of our affiliated unions have been involved in what can only be described as an out and out war with individual companies, the government and the Workmen's Compensation Board to control their workers' exposures to asbestos and to gain just compensation for the victims of the failure to win this battle.

We cannot say that we, in the trade union movement, welcome this Royal Commission for we see it only as failure on the part of the present Conservative government to deal properly with an important political issue by shifting it to an independant inquiry that can diffuse the public controversy by a lengthy and technical assessment of all the issues surrounding the past, present and future use of asbestos.

There is already more than enough scientific, technical and economic information available on which to make the necessary political decision. Nothing will be said to this Commission that has not already been thoroughly reviewed by the International Agency for Research on Cancer (I.A.R.C.), the European Economic Community (E.E.C.), the British Advisory Committee on Asbestos and the National Institute of Occupational Safety and Health.

What concerns us more, however, is that this Commission may move what is a social, political and humanitarian decision into the world of scientific and technical debate where it becomes a battle of who can pay for the most science and workers who are affected most, will always lose.

We are concerned, as well, about the public forums that were arranged to place some of the issues before the public. The presentations concerning studies, dose-response relationships and "safe" thresholds indicated a bias that we found distasteful. The use of smoking to illustrate cause and effect relationships was provocative and manipulative. Smoking and asbestos is a highly controversial issue and an argument used by industry to deflect attention from the real problem of asbestos. We will deal with this issue more extensively in the body of our brief, but we would hope that it did not demonstrate a bias on the part of the Commissioners.

As well, Dr. Muir's presentation became highly political. Having indicated that there was no clear evidence either way, as to whether there was a "safe" threshold, he then launched into a political opinion as to the likelihood that present exposures are unlikely to cause future disease. If Dr. Muir wishes to make political statements before this Commission, he can apply for standing and subject himself to formal cross-examination. Again, we hope that this does not indicate a bias on the part of the Commission.

We are worried , that while this Commission deals with asbestos in industry and the environment, there are literally thousands of other substances that are used in our workplaces and hence make their way into the environment, that are being ignored. Will we have to keep "counting bodies" to present before future Royal Commissions dealing with each substance, or will we develop a proper method of pre-testing new chemicals before they enter the world of commerce and a thorough review of research and proper testing of those chemicals already in use. The assumption that all chemicals are guilty or hazardous until proven innocent is essential to guarantee that disasters like asbestos do not happen in the future, and humane and just compensation must be provided to the victims of our past neglect.

Our brief is quite lengthy since we wish to address many of the scientific and technical questions that the Commission placed before us. However, we do not want this to be misinterpreted, the question before this Commission is not scientific, the evidence is clear enough that a number of jurisdictions are moving to a ban on the non-essential uses of asbestos around the world. What is needed now is the courage to make the necessary decision in this province.

And finally, our brief is based upon a fundamental assumption that has been developed by a joint committee of the International Labour Organization and the World Health Organization in 1963 when they defined the objectives of occupational health as:

"The promotion and maintenance of the highest degree of physical, mental and social well-being of workers in all occupations, the prevention among workers of departures from health caused by their working conditions, the protection of workers in their employment from risks resulting from factors adverse to health; the placing and maintenance of the worker in an occupational environment adapted to his physiological and psychological condition."

Anything less than that is unacceptable to the working people of Ontario.

II Health Effects of Asbestos

There has never been a substance used in society that has caused so many needless deaths. In 1978, the National Institute of Environmental Health in the U.S. estimated that more than 2,000,000 American workers will die over the next twenty or more years from cancer and other diseases related to asbestos exposure on their jobs. Fifty thousand workers a year! By the year 2,000, 17 percent of all cancer will be as a result of exposure to asbestos.

In Canada with roughly one tenth of the population, this could mean 200,000 deaths with more than one third of those occurring in Ontario over the next twenty years. If this kind of slaughter was happening anywhere else but in the workplace there would be a national uprising. But these deaths go largely unnoticed "when these people die, they die one at a time, and nobody sees them. When they get cancer, they're no longer in the workplace. Their buddies don't see them. They don't go to union meetings. They don't come to testify here. They're hidden away in little rooms somewhere in the back, if they can afford to keep their house, or in a trailer camp, if they can't."^{1.}

The real tragedy in all of this, is that it is so unnecessary. The evidence implicating asbestos has been growing for the last eighty years.

1. Selikoff, I. in a presentation to a seminar "Lost in the Workplace: Is There An Occupational Disease Epidemic" sponsored by the U.S. Department of Labour, OSHA, Sept. 13, 1979.

History -- Anatomy of a Failure

References to asbestos use have occurred as far back as some 4,500 years ago when asbestos was used in pottery making in Finland². In the first century AD, the Greek geographer Strabo described the first cases of asbestosis or "breathing sickness" among slaves who wove asbestos cloth.³. While there are a number of other early references to asbestos use, the modern evidence started around the turn of the century along with the growth of the asbestos industry.

It is especially ironic that one of the first identified deaths from asbestosis was one of the founders of a modern giant in the asbestos industry. Henry Ward Johns died in February, 1898 of "dust phthisis pneumonitis", dust disease of the lungs with pneumonia as the immediate cause of death.

In 1899, H. Montague Murray, a London physician performed the first autopsy on a man with asbestosis. This case was presented to a departmental committee on industrial disease compensation for the British Parliament in 1906. Since Dr. Murray also indicated his optimism that controls were being applied to prevent future disease, it was decided that compensation would not be granted to asbestos.⁴.

². Epstein, Samuel, *The Politics of Cancer*, Anchor Books, New York, 1979, p.79.

³. Atherley, G. Address to Royal Commission on Matters of Health and Safety from the Use of Asbestos, October 31, 1980.

⁴. History was taken from two sources except where otherwise identified. Selikoff, I. Presentation to Lost in the Workplace: Is There an Occupational Disease Epidemic, US Dept. of Labour, OSHA Chicago Sept. 13, 1979 and Castelman, B., Statement Before the Subcommittee on Crime, House Judiciary Committee, November 15, 1979.

In 1910 a French factory inspector reported that fifty weavers in one factory had died of what he mistook for stonecutter's disease (silicosis).

1918, however, was a watershed for attention to asbestos related disease in the US. Murray's report appeared in a Bulletin from the U.S. Department of Labour Statistics, which called for an investigation into asbestos hazards.

Perhaps one of the more important studies was published by Frederick Hoffman, Vice-President of Prudential Life Insurance Company. Respiratory Diseases in the Dusty Trades noted excess disease and mortality and hence the American and Canadian insurance companies' decided not to sell insurance to asbestos workers.

It was also in 1918 that a radiologist from Philadelphia, Dr. Pancoast, reported that he had looked at asbestos workers and found their x-rays to be abnormal.

The first case of asbestosis described pathologically in the medical literature was reported in the British Medical Journal by Dr. W. E. Cooke in 1924. Dr. Cooke labelled the disease - asbestosis.

In 1929, Dr. Merewether was told by the British Factory Inspectorate to conduct a survey of the British asbestos industry.

The survey was completed in 1930 and presented in a government report and the U.S. Journal of Industrial Hygiene. He examined close to 350 people and found asbestosis in one third of all employees who has been with the industry for more than 5 years.

Merewether, however, expressed optimism for the future if "energetic application of preventative measures" were applied.

In 1930, the insulation workers in the U.S. had heard about Merewether's findings and published an article in the Asbestos Worker entitled "The Pulmonary Asbestosis Menace". Mr. Mullaney the President of the insulation workers said "Look, I've been reading articles from Britain saying that this dust could cause harm --- What about it."

The workers' question remained unanswered but industry, Raybestos-Manhattan, Johns-Manville and the Metropolitan Life Insurance Company hired Anthony Lanza to investigate the x-rays of 126 workers with 3 or more years of asbestos exposure. Vandivar Brown, Secretary of Johns-Manville, other industry officials and lawyers were to serve in an editorial capacity. In an attempt to oppose pending Workmen's Compensation legislation in New Jersey, Lanza was persuaded to conclude in 1935 that asbestosis was milder than silicosis and no reference was made to the 67 workers (53 percent) who were suffering from asbestosis. As a result, New Jersey recognized asbestosis only in 1945.⁵.

Case reports of fatal asbestosis began to appear in the U.S. in 1930 and even earlier, a foreman in a Massachusetts asbestos factory received a compensation for disability from asbestosis. Compensation was of great concern to the industry.

⁵. Epstein, Samuel, The Politics of Cancer, Anchor Books, New York, 1979, p. 91-92.

In 1933, Johns-Manville settled 11 asbestosis cases for "\$30,000 provided written assurance were obtained from the attorney for the various plaintiffs that he would not directly or indirectly participate in the bringing of new actions against the company."⁶.

Regulations for the control of asbestos dust were published in England in 1933 and Dr. Merewether "published a report showing that workers dying with asbestosis had an average survival time of only 15 years past the start of asbestos work compared with a figure of forty years for those dying with silicosis."⁷.

He also showed that asbestosis progresses or gets worse even when the victim is removed from dust exposure and the average age of death among his cases was 41.

In the same year, Dr. Donnelly reported asbestosis in North Carolina asbestos textile mills and as a result in 1934, the Supreme Court of North Carolina declared that asbestosis was compensable.

New York recognized asbestosis in 1935.

But 1935 was even more important than the further reporting of asbestosis, Dr. Kenneth Lynch, Professor of pathology at the Medical University of South Carolina reported a case of

⁶. Reported by B. Castleman, Statement Before the Subcommittee on Crime, House Judiciary Committee, November 15, 1979, pp 7

⁷. Ibid pp 7 - 8

lung cancer at an autopsy in a man who also had asbestosis. He suggested an association.

In 1938, Dr. Dreesen was asked to do a survey in North Carolina for the U.S. Public Health Service. Unfortunately, just before the survey, some 150 men suspected of having asbestosis were fired. This left only 13% of the workforce with more than ten years and only 3 workers with more than 20 years of exposure. Despite the lack of workers with extensive exposure, he recommended that the industry do dust counts and that a tentative standard of 5 million particles per cubic foot (5mppcf) be instituted to prevent asbestosis.⁸.

Reports of pleural and peritonial tumours associated with asbestos also appeared in Germany in 1943.

Cancer of the lining of the chest was described in 1954 by A. Weiss in Medizinische and unequivocably associated with asbestos in 1960 by J. C. Wagner et al in the British Journal of Industrial Medicine.⁸.

In 1964, gastro-intestinal cancer excesses were found by Irving Selikoff among insulation workers in the U.S.⁸.

References to laryngeal cancer and asbestos exposure were reported by Muriel Newhouse in the British Journal of Industrial Medicine in 1969.

⁸. Nicholson, W. "Recent Approaches to the Control of Carcenogenic Exposures: Asbestos - the "TLV" Approach.

The history of evidence surrounding the health effects of asbestos exposure is a very long one and yet here we are today with yet another Commission asking "What are the health effects of asbestos?"

The Present

There is overwhelming evidence that associates asbestos exposure to asbestosis, cancer of the lungs, esophagus, larynx, stomach, colon-rectum, more recently kidney, and pleural and peritoneal mesothelioma. On April 26, 1978, U.S. Secretary of H.E.W., Joseph Califano, issued a warning on the dangers of asbestos. He estimated that as many as half of all workers exposed to asbestos could develop cancer of the lung and gastro-intestinal tract, mesothelioma and asbestosis.

Asbestosis

Since 1960, there have been 216 Workmen's Compensation claims established for asbestosis in the province of Ontario.
(to April 16, 1980) More than half of these claims are from
Canadian Johns-Manville.^{9.}

Not as much attention is given to these victims as to those disabled or dying with cancer, since the media seems so preoccupied with the ravages of malignancies and the numbers that die from asbestosis tend to be lower than for cancer, but the life and death of a victim of asbestosis is equally devastating.

^{9.} Elgie, Robert, Response to Order Paper Questions from Bob MacKenzie on April 16, 1980.

Their hands and feet swell, and exertion brings on breathlessness, they crawl up the stairs backwards, in order to rest on each step, coughing is excruciating and victims are unable to stop without someone to hit their back, their chests feel like they are in a vice, their bedrooms are adorned with oxygen tanks and there is no enjoyment in food, since much of it is brought back up again. They die of pneumonia, heart attacks, other respiratory disease, and of course, cancer. They are gasping for breath.

Irving Selikoff's landmark study of 17,800 asbestos insulation workers followed from January 1, 1967 to January 1, 1977 with 166,855 man-years of observation, showed 162 deaths from asbestosis where virtually none were expected in the general population. (attached) Asbestosis accounted for 7% of all deaths. This also showed an increase of 43 deaths from this cause, since January 1, 1975 when 119 asbestosis deaths were reported.^{10.}

A review of many mortality studies presented by the British Advisory Committee on Asbestos showed that death from asbestosis accounted for a range of between 1.3% and 11% of all deaths from asbestos exposure with many more studies indicating percentages above 5%.^{11.}

¹⁰ Selikoff,I.J. "Asbestos Disease in the United States, 1918-1975" Presented at the Conference on Asbestos Disease, Rouen, France, October 27, 1975.

¹¹. Asbestos - Vol. I: Final report of the British Advisory Committee on Asbestos. 1979 Table 13 pp 51

The lowest percentage of 1.3 was found by McDonald et al among Quebec chrysotile asbestos miners and millers; however, an update by Liddell et al,¹² found excess asbestosis and a recent study by Nicholson¹² of 544 Quebec chrysotile mine and mill workers' mortality showed the 15% of all deaths were due to asbestosis and the risk of death from asbestosis was very similar in the miners and millers to that found in the factory workers and insulators. This disproves the theory that there is less asbestosis in Canadian asbestos miners than in those with industrial exposure.

Dose-Response Relationship

It has been assumed that one needs a heavy exposure to asbestos in order to develop asbestosis and there is no doubt that a heavy exposure reduces the latency time from first exposure to onset of the disease or that lengthy duration of exposure means increased disease. However, increasing evidence indicates that short and even low exposures can cause asbestosis.

Selikoff reported positive x-ray findings among individuals with asbestos exposure as short as one day in an insulation plant.¹³

In 1976 and 1979, Anderson et al, found x-ray abnormalities among individuals whose only known exposure was living in a household with an asbestos worker.

12. Reported in Workplace Exposure to Asbestos DHHS (NIOSH), 1980

13. Ibid

A 1979 study by Berry et al, reported on a follow-up of men who worked at the Turner and Newall's Rochdale textile plant. It was this same cohort on which the British Occupational Hygiene Society based their 1968 recommendation that a "safe" level of asbestos exposure was 2 fibres per cubic centimetres or 2,000,000 fibres per cubic metre. At 2F/cc it was estimated that a person employed for 50 years would stand a 1 in a 100 risk of getting asbestosis.

By 1977, Julian Peto, in a review of the cohort, showed a risk of almost 10% or 1 in 14 of getting asbestosis.¹⁴. But Berry et al, found that clinical evidence of certified asbestosis can occur at levels of exposure as low as 0.3 fibres/cc (300,000 fibres per cubic metre) or between 10 and 30 fibre years per cubic metre as the measure of cumulative lifetime exposure.¹⁵.

A Progressive Disease

The Selikoff and Anderson studies reported above, also demonstrate the progressive nature of the disease after exposure has ceased. The 1976 NIOSH Revised Recommended Asbestos Standard stated:

"The pulmonary fibrotic changes develop slowly over the years...often progressively even without further exposure" pp 29

¹⁴. Julian Peto's written and verbal evidence to the Advisory Committee on Asbestos in 1977.

¹⁵. Berry, G., Gilson, J.C., Holmes, S. et al "Asbestosis: A Study of Dose Response Relationships in an Asbestos Textile Factory," Brit. J. Ind. Med., 36;98, 1979

Prognosis Poor

A 1980 study by Dr. Murray Finklestein which analysed the mortality experience of workers compensated for asbestosis in Ontario showed statistically significant increased deaths from all cancer, lung cancer, mesothelioma and non-malignant respiratory disease.

"Workers compensated for asbestosis in Ontario have had decreased life expectancy in comparison with the general population, and the ten year survival rate following the time of award has been only 50% of that expected. This underlines the importance of prevention of this disease. pp 7^{16.}

A 1973 study by Wagoner et al, demonstrated a significantly increased risk of death from non-malignant respiratory disease (4 fold increase) and for diseases of the heart, secondary to pulmonary disease. Further evaluation also showed that the majority of deaths occurred within one year after leaving employment and at an average of 53.8 years.^{17.}

"Pulmonary hypertension is frequently associated with advanced asbestosis and the resultant cor pulmonale (right-sided heart failure) may be the cause of death.^{18.}

In a 1970 report from the Ontario Ministry of Health, they reported that 30% of the WCB cases for asbestosis die of bronchogenic carcinoma (lung cancer). Mesothelioma also accounted for three deaths, but perhaps one of the more shocking statements

16. Finkelstein, M., and Kusiak, R., and Suranyi G, "Mortality and Survival of Workers Compensated for Asbestosis in Ontario, Ontario Ministry of Labour, 1980

17. Wagoner, J.K., et al, reported in Revised Recommended Asbestos Standard NIOSH, U.S. HEW, 1976, pp 28

18. Ibid, pp 29-30

that was made in the report and ignored by the W.C.B. was:

"The commonest cause of death in Ontario workers with asbestosis is right heart failure - the same as elsewhere" 19.

In a telephone conversation with Irving Selikoff, he indicated that more than half of the deaths from other causes were from pneumonia, heart disease and infections among asbestotics. There is more than enough evidence that links asbestosis with deaths from other causes for the W.C.B. to move.

Keep in mind that 9 cases of heart attacks in recognized asbestotics, have been denied by the WCB among the Johns-Manville workers alone.

Obviously, asbestosis would also mean that a person's resistance to infection would be lowered and his or her capacity to survive surgery for other illnesses would be minimized. The John Dodds case from Johns-Manville demonstrates this relationship and don't forget old Henry Ward Johns death from pneumonia.

Fibre Type

"According to the British Advisory Committee on Asbestos, there is but one quantitative study which suggests that crocidolite causes higher rates of asbestosis in exposed workers than chrysotile. Apart from this study, there is little evidence showing a difference in risk associated with asbestos type." 20.

19. "Occupational Health Programs and Special Problems Encountered in Ontario" in Occupational Health in Ontario, Vol. 22, No. 4, Dec., 1970

20. Ontario Ministry of Labour, Occupational Health and Safety Division, "Interim Report on the Designation of Asbestos in Ontario," August.

Workmen's Compensation Board

We intend to deal at some length in our second brief to the Royal Commission on the injustices faced by asbestosis victims in Ontario. Specifically, we will deal with the meat chart & approach to defining lung impairment, the use of the South African classification of x-rays, the misuse of the term "dust effects" and the denial of pensions to persons who die from causes not recognized by our board, i.e., heart disease.

Cancer

Again, in Selikoff's landmark study of 17,800 asbestos insulation workers between January 1, 1967 and January 1, 1977, the following table occurs.

Deaths among 17,800 asbestos insulation workers
in the United States and Canada
January 1, 1967 - January 1, 1977

	<u>Number of men</u>	<u>17,800</u>	
	<u>Man-years of observation</u>	<u>166,855</u>	
	<u>Expected</u>	<u>Observed</u>	<u>Ratio</u>
<u>Total deaths, all causes</u>	1,660.96	2,270	1.37
<u>Total cancer, all sites</u>	319.90	994	3.11
Lung cancer	105.97	485	4.58
Pleural mesothelioma	**	66	---
Peritoneal mesothelioma	**	109	---
Cancer of esophagus	7.01	18	2.57
Cancer of stomach	14.23	22	1.55
Cancer of colon-rectum	37.86	59	1.56
All other cancer	154.83	235	1.52
<u>Asbestosis</u>	***	162	---
<u>All other causes</u>	1,351.06	1,114	0.82

* Expected deaths are based upon white male age specific mortality data of the U.S. National Center for Health Statistics for 1967-1975 and extrapolation to 1976.

** These are rare causes of death in the general population.

21.

21. Selikoff, I., private correspondence to Dr. W.J. McCracken, W.C.B., October 24, 1977

Cancer of all sites accounted for 43.7% of all deaths. Lung cancer accounted for 21.3% of all deaths and almost half of all cancer deaths. Mesothelioma accounted for 7.7% of all deaths and 17.6% of all cancer deaths. There were almost twice as many peritoneal (stomach cavity lining) mesotheliomas as pleural (lung cavity lining) mesotheliomas (109 to 66). Cancer of the esophagus accounted for 0.7% of all deaths and 1.8% of all cancer deaths. Gastro-intestinal cancer was responsible for 3.5% of all deaths and 8.1% of all cancer deaths.

The remarkable finding that was also presented in Selikoff's letter to McCracken was that 20 deaths were due to kidney cancer (statistically significant to the .001 level) which accounted for 0.8% of all deaths and 2% of all cancer deaths.

Atherley's review of the magnitude of the health risk from the British Advisory Committee on Asbestos found the following percentages for deaths caused by asbestos-related disease:

	<u>UK</u>
lung cancer	40%
asbestosis	24%
mesothelioma	13%
gastrointestinal cancer	8%
all other causes	15%
 TOTAL	 100%

In Ontario, 46 lung cancers, 35 mesotheliomas, 7 gastro-intestinal cancers and 3 laryngeal cancers have been compensated by the WCB since 1960 (to April 16, 1980). Johns-Manville has 19 recognized lung cancer cases, 11 mesotheliomas, and 3 gastro-intestinal cancers. Nine employees in the public sector have been compensated for mesothelioma (Scarborough Board of Education, North York Board of Education, Government of Canada (Labour Division), City of Ottawa, Board of Education for the Borough of York, NorOntair (Dept. of Public Works), University of Toronto, the Atomic Energy of Canada Ltd. and Lakehead Psychiatric Hospital 22.

Fibre Type and Toxicity

All Asbestos fibre types cause cancer!

The controversy between serpentine or chrysotile (white) and amphiboles (crocidolite (blue) and amosite (brown)) rages, especially promoted by the Quebec Asbestos Mining Association and the asbestos industry generally.

Industry would wish to have us believe that is only the dirty brown and especially blue asbestos that is the problem. The "blue is deadly, white is safe" proposition flowed from early studies linking blue crocidolite asbestos to a previously rare, painful and fatal cancer - mesothelioma.

22. Elgie, Robert, Response to Order Paper Questions from Bob Mackenzie on April 16, 1980.

Since 95% of all asbestos used is white, perhaps industry can forego the use of blue asbestos without loss of profits.

Unfortunately for the asbestos industry, increasing evidence links their "safe" white fibre to all forms of cancer and especially to mesothelioma.

C. Robinson, R. Lemen and J. K. Wagoner, reviewed a cohort studied by J.C. Wagoner in a plant producing asbestos textile, friction, and packing products, where chrysotile made up more than 99% of the fibres handled. J.C. Wagoner had found no mesothelioma in his 1973 study (referred to in the British Advisory Committee's Final Report). With an additional 8 years of observation, Robinson et al, found 17 mesotheliomas with latency periods of 24 to 53 years since onset of first exposure.²³

Unfortunately, the British Advisory Committee on Asbestos did not include this update, so consequently, they reported that mesothelioma was the cause of 0.0% of all deaths in that population rather than the 2.59% cause of all deaths that the more recent study showed. NIOSH however, does include this recent study.

Again, the later (1977) Corbett McDonald study of Quebec chrysotile miners and millers found 9 confirmed and two suspected mesotheliomas.

23. Robinson, et al, (1979) reported in Workplace Exposure to Asbestos, DHHS (NIOSH) 1980 pp 18

A study of workers in a chrysotile asbestos cement plant found 72 cases of mesothelioma.²⁴

Julian Peto's review of the workers from Turner and Newall in the UK concluded:

"Peritoneal mesothelioma (cancer of the lining of the stomach) is usually due to crocidolite (blue asbestos) but exposure to chrysotile (white asbestos) alone may lead to substantial risk of pleural mesothelioma (cancer of the lining of the lung)"²⁵.

This finding is also confirmed in the McDonald study reported in the British Advisory Committee on Asbestos Report, that should 10 cases of pleural mesothelioma and 1 case of peritoneal mesothelioma.²⁶

The problem of underestimating mesothelioma may be one of underestimating the latency period. Perhaps chrysotile asbestos has a longer latency period for mesothelioma.
In any event, there is clear evidence of a relationship between chrysotile and mesothelioma. Whether the mesothelioma is pleural or peritoneal matters little to the victim since both are invariably fatal.

There is clear evidence that chrysotile causes lung cancer contained in the IARC monograph on Asbestos, the British Advisory Committee on Asbestos, Final Report, and all the NIOSH publications.

24. Borow M, Conston, A., Liverneese, L., Schalet, N, "Mesothelioma Following Exposure to Asbestos: A Review of 72 Cases", Chest Vol. 64, 1973 pp 641 - 6

25. Peto, Julian, Lancet, 4 March 1978 pp 484

26. Asbestos: Vol I Final Report of the British Advisory Committee on Asbestos (1979), Table 13 pp 51

While the British Report emphasizes the varying risk between chrysotile, amosite and crocidolite, Irving Selikoff emphasizes that all fibre types cause cancer and that amosite and chrysotile give the same experience.

3. None of the proposals in the United States makes a distinction between chrysotile and crocidolite and/or amosite. (Parenthetically, why is anthophyllite excluded?) (and tremolite?) In neither of the two, first rate, extensive animal studies comparing the fibrogenicity and carcinogenicity of the various asbestos fibers (Ref. 1, 2) was crocidolite or amosite more hazardous than chrysotile. Indeed, the reverse seem to be the case, especially in the 1978 investigation by Davis and his colleagues (Ref. 2) which, incidentally, was supported by the British Asbestos industry. In our investigations in the United States, chrysotile and amosite seem to give very much the same experience. If 0.2 is deemed suitable for amosite, then place should be made at the same level for chrysotile."²⁷.

The animal studies that Selikoff refers to are also reported in the NIOSH 1980 Report. Chrysotile was found to be equally as potent as crocidolite and other amphiboles in inducing mesotheliomas after intrapleural injections²⁸. but also were equally as potent in producing pulmonary neoplasms after inhalation exposures. After 24 months of inhalation of chrysotile much less dust was concentrated in the lungs of rats than after the same length of exposure of rats to amphiboles. (1.8 - 22% of the total in the amphiboles exposed rats)

²⁷. Selikoff, Irving in a letter to Linda Jolley concerning Ontario's 1968 asbestos standard proposals, August 22, 1978.

²⁸. Wagoner J.C. et al, 1973 reported in Workplace Exposure to Asbestos DHHS (NIOSH) 1980 pp 15

In terms of dust concentration, chrysotile appears to be much more fibrogenic and carcinogenic than the amphiboles.²⁹.

The British Asbestos industry study, referred to by Selikoff was Davis, J.M.G., Bickett, S.T., Bolton, R.E., Collings, P., and Middleton, A.P., "Mass and number of fibres in the pathogenesis of asbestos - related lung disease in rats," Brit. J. Cancer 37, 1978, pp 673-688.

Industry argues that animal data does not necessarily reproduce in human studies and we need human data to establish proof. Perhaps management would like to donate themselves to experiments on relative risk of various fibre types to prove their case. Workers will no longer be the guinea pigs in these massive experiments. Millions of workers around the world will die from exposures to all types of asbestos and that is all the proof we need.

And finally, even one industry physician shares our view:

"Within the past week I have had the occasion to review the matter of the comparative hazards of various forms of asbestos, most notably chrysotile and the amphiboles amosite and crocidolite.

I know that it will be of great interest to you that Dr. Irving J. Selikoff shares the opinion I hold. He also is unaware of any convincing data supporting the position that crocidolite poses a greater hazard than does chrysotile. Such data as are purported to indict crocidolite can, I believe, be equally well explained by, for example, differences in intensity of exposure. I know of the explanations offered in support of the concept of an increased hazard with crocidolite, but I would respond by saying that valid alternative explanations do exist. It is common knowledge that asbestosis, lung cancer and mesothelioma can occur following excessive exposure to chrysotile and amosite as well as to crocidolite."³⁰

²⁹. Wagner, J.C. et al, 1974, Ibid pp 15

³⁰. Kotin, Paul, V.P. Johns-Manville, in a letter to Dr. P. Loubert and T. Patterson, Canadian Johns-Manville, Toronto, November 5, 1976.

Surely it is time that this myth be laid to rest. Whether white chrysotile asbestos causes as many deaths as blue crocidolite asbestos is irrelevant to those who die and their families. Bans on blue asbestos alone may be a tactical move by governments afraid to challenge the major interest of the asbestos industry, but it does not deal with the real problem. All asbestos fibre types cause cancer! Bans on blue asbestos will not ultimately affect the profits of the asbestos industry since 95% of all asbestos used in industry is chrysotile. But more importantly, it means an even greater dependance on chrysotile which means even more of our Canadian asbestos miners will die.

Relationship Between Levels of Exposure and Health

It is of course, obvious, and there is much evidence to suggest the theory that a large dose of asbestos will produce a greater health risk. However, the nature of the dose-response relationship is open for debate when one is dealing with cancer.

Nicholson described a study of mortality among 20 year production employees at an asbestos products manufacturing facility. Workers and union officials categorized their jobs according to relative dustiness, with jobs with little exposure, such as those in departments that did not use asbestos categorized as minimum, through to the textile mill which was certainly the dustiest. Nicholson felt that these subjective opinions were probably accurate since the actual deaths from asbestosis increased according to description of the dust. The findings were described as follows:

Percent of deaths due to given cause by estimated dust catagorey

	DUST LEVELS			
	Min.	Mod.	High	Textile
Asbestosis	5	13	20	39
Lung Cancer	16	10	16	9
Mesothelioma	6	13	8	5
G.I. Cancer	9	3	4	5
All Other Cancers	9	7	16	5
All Other Causes	55	54	36	39
All Cancer	41	33	44	29
No. of Workers in Each Catagorey	86	61	25	24

"Considering the table, the disconcerting feature is that even though deaths from asbestosis were reduced as dustiness decreased, those from cancer were not."^{31.}

^{31.} Nicholson, W. "Recent Approaches to the Control of Carc nogenic Exposures: Asbestos The "TLV" Approach" pp 11

Most dose-response relationships are determined by measuring exposure by cumulative dose or by the duration of employment

"Since using cumulative dose as a measure of exposure gives equal weight to the concentrations of dust experienced each year of exposure, exposure of many years ago is considered as important as recent exposure. This practice is unrealistic for chronic diseases having a long latency period." 32.

Exposure estimation from the past by converting various sampling technique results is also subject to a great deal of error. Even current measurement by phase-contrast microscopy is not only subject to operator error, but does not consider the fibres of less than 5 microns in length. Nicholson showed that the fibres of 5 microns or more in length represent differing percentages of the total fibre counts (using an electron microscope) according to type of asbestos operation under survey. 33.

Since shorter, narrower fibres are of concern, a good deal of exposure may be overlooked.

(Further discussion of the limitations of phase contrast will be covered in our chapter on measurement).

32. Workplace Exposure to Asbestos, DHHS (NIOSH) 1980 pp 31

33. Nicholson, W. op cit. pp 8

The British Advisory Committee on Asbestos stated:

"Our reasons for preferring a linear hypotheses are:

- (1) It fits the data for occupational exposures;
- (2) It is the simplest hypotheses and the one most readily use for extrapolation to probable effects of low doses;
- (3) It is likely to lead to an overestimate rather than underestimate of risks at very low doses.³⁴.

The data presented to date does fit a linear model but there have been insufficient time to follow the disease and death experience of workers with very low exposure over the proper latency time.

There is increasing discussion that lower exposures will mean a significant lengthening of the latency period and some have attempted to reassure workers that they will therefore, die of the so-called "normal aging process" before asbestos disease occurs. Again we say, that workers will no longer be the test animals in such experiments.

The only conclusions that we can draw from all of this is that there is no safe threshold below which the risk of developing asbestos-related cancer is zero, and that any exposure to asbestos can cause disease.

³⁴. British Advisory Committee on Asbestos, Final Report - Vol. 2, 1979 pp 14

Is There a Low Level Exposure That Might Be Considered Safe?

NO!

Does The Age of an Exposed Individual, or Any Other Personal Characteristics Affect the Health Risk from Asbestos Exposure?

Age

From experimental animal evidence, it can be hypothesized that young people may be more susceptible to carcinogens.^{35.} This makes physiological sense in humans as well, since the cells in growing children are dividing more rapidly leaving more metabolic space for cancer to develop.

Of concern as well, is what Nicholson refers to as the "residency time" of fibres in children. Asbestos fibres entering a child's lung will remain there over a longer life-time than in an adult.^{36.} This can mean that disease will appear in these people at a much earlier age than in an occupationally exposed group, and that if very low doses mean extremely long latency periods, the theory that they will die of "normal aging process" will not hold up.

There is evidence that older people may in fact be more susceptible to cancer-causing agents because of a less efficient immune system.^{37.} Terrifying as it may be, there has been

35. Levine, R.J. (ed.), Asbestos; An Information Resource, NCI, HEW, NIH, DHEW, May 1978 pp 29

36. Nicholson, W., Address to a Public Forum on Asbestos, Hamilton, Ont. Dec. 10, 1979

37. Doll, R., "Cancer in the Aging: the Epidemiologic Evidence" reported in Levine R(ed) op sit pp 29

public discussion about the employment of older workers in jobs where carcinogens are present, since the development of the disease considering the average latency periods would occur long after these workers are dead from other causes. It would mean that no further attempts to remove or reduce exposure would be necessary and industry would not have to face further compensation assessments.

Such considerations are obscene and not worth further comment.

Genetic Susceptibility

It is of increasing concern to us in the labour movement that more and more attention is being given to the issue of genetic susceptibility. The Ontario Ministry of Labour's Advisory Council has set up a task force to consider the issue of genetic screening.

It is part and parcel of the attempts by industry and government to "blame the victim" for his illness. The worker's lifestyle is the cause rather than the proven cancer-causing agent in his or her job or environment. But even more serious is the charge that the worker is somehow genetically inferior and therefore should be denied the right to work.

This is of concern with asbestos since a study to determine the genetic susceptibility to asbestosis is underway by Dr. Andre Lebrun, a hematologist at Sacre Coeur Hospital and

assistant professor of medicine at the University of Montreal.^{38.}

In describing his method, Dr. Lebrun referred to the genetic purity of the French population favouring the detection of an association between disease and a certain gene or genes.

What does this mean about the genetic impurities caused by the mixing of ethnic groups and races? Words like genetic purity, and genetic susceptibility are frightening given the implications for social control policy.

Asbestos is the problem! There is no doubt anymore. The only socially acceptable method of dealing with the problem is to eliminate the exposure to the Asbestos.

^{38.} Harrison, P., "Study Will Tell Workers of Asbestosis Genetic Harm"
The Medical Post, January 15, 1980

Smoking and Asbestos - Related Cancer

A great deal of attention has been given to the fact that smoking causes lung cancer and it is something that we do not dispute. However, we do feel that the role of smoking in the development of lung cancer has been overplayed and the role of occupational lung carcinogens have been underemphasized.^{39.}

Few epidemiological studies on cigarette smoking and lung cancer take into consideration the occupation of the victim.

Dr. David Sackett, at the second public meeting of the Royal Commission, pointed out that one of the requirements of a good study is "specificity". He used the example that lung cancer could be highly correlated to the lighting of matches, when obviously smoking is the problem. He failed however, to point out that in most of the studies, occupation can not only have an impact, but a synergistic or multiplying impact, so that, one is unsure of what one is measuring. For instance, when one considers a smoking roofing worker who develops lung cancer, which agent is responsible. Selikoff estimates that over an eight hour working day, a roofing worker breathes in the equivalent of 900 cigarettes per day. If he also smokes 25 in his leisure time and at work, we defy anyone to implicate his lifestyle. When industry makes an

^{39.} Epstein, Samuel, Presentation to the Conference "Bill 70 - Success or Failure, Sponsored by the OFL, Oct. 29, 1980. Swartz, J.B - Presentation to the American Public Health Association Meetings, Detroit, Oct. 20, 1980 Sterling, T.D. "Smoking, Occupation and Respiratory Disease" delivered at the American Lung Association Occupational Health Task Force Meeting April 9, 1980.

effort to get rid of the 900 cigarettes per day, workers will take smoking cessation programmes seriously.

It is all part again of the "blame the victim" approach that attempts to deflect the attention from the occupational exposures.

Hammond and Selikoff's report on the 12,051 asbestos insulation workers with 20 years or more from onset, showed some new figures that are worth noting. Complete smoking histories were obtained on a large number of workers and compared with control population with known smoking histories.

<u>Groups</u>	Exposure to Asbestos	History of Cigarette Smoking	Death Rate	Mortality Ratio
Control	No	No	11.3	1.00
Asbestos Workers	Yes	No	58.4	5.17
Control	No	Yes	122.6	10.85
Asbestos Workers	Yes	Yes	601.6	53.24

Asbestos workers who did not smoke, show a 5 times greater risk of dying from lung cancer when compared to the non-smoking control group. Smoking asbestos workers also showed a 5 times greater risk than the control smokers.

The risk of lung cancer with smoking alone is almost 11 times higher than not smoking or working with asbestos and the risk of lung cancer from smoking and asbestos still clearly indicates the synergistic or multiplying factor at 53 times greater risk.⁴⁰

⁴⁰ NIOSH, 1980, Op. Cit. pp 26

A study by Wagoner et al, reported a significant excess of lung cancer among dutch Amish workers, known for their abstention from alcohol and cigarettes, in a chrysotile asbestos manufacturing complex.

Dr. Philip Enterline, University of Pittsburg, told the Asbestos Information Association's annual meeting that the relative risk of an asbestos worker developing lung cancer is three times that of a non-asbestos worker, whether or not the worker smokes. Thus, a non-smoking, asbestos worker has three times the risk of developing lung cancer as does the non-smoking, non-asbestos worker; similarly, a smoking, asbestos worker has three times the risk as does a smoking, non-asbestos worker. "In this sense, then, there is no interaction between cigarette smoking and asbestos exposure in the production of lung cancer."⁴¹.

Stell and McGill found that 27.7% of patients with laryngeal cancer had occupational exposure to asbestos compared to only 2.5% in the control group. There were no differences in the two groups smoking habits.⁴².

Hammond et al, in two studies, showed that there was little or no evidence that smoking is related to increased risk

^{41.} Wagoner, J., Johnson, W.M. and Lemen, R., "Malignant and Non-Malignant Disease Patterns Among Asbestos Production Workers", in Congressional Record, 93rd Congress, First Session, Vol. 119 pp 7828-7830, 1973

^{42.} Still, P.M., and McGill, T., "Exposure to Asbestos and Laryngeal Carcinoma", J. Laryngol. Otol., 89 : 513-517, 1975

of pleural or peritoneal mesothelioma.⁴³ Nor is either related to increased risk of gastro-intestinal cancer.

There is data that shows that cigarette smoking approximately doubles the risk of asbestosis, while other studies do not, but there is still a clear risk of asbestosis among non-smokers.

We certainly will not deny that smoking causes lung cancer and that there is significant increases in the risk of lung cancer in smoking asbestos workers from the present data. But what we may be seeing is an impact on the latency period rather than less lung cancer disease.

Cigarette smoking may shorten the latency so we see a large amount of lung cancer earlier among smoking asbestos workers and as more time goes by, the non-smoking asbestos workers may experience dramatic increases in lung cancer.

We conclude, therefore, that asbestos causes lung cancer and asbestosis in non-smoking workers. Smoking bears no relationship to the development of pleural and peritoneal mesothelioma and gastro-intestinal cancer.

We will continue to encourage workers not to smoke, but we will not accept smoking cessation programmes as a trade off for clean workplaces. We will only take such programmes seriously when programmes for the removal of asbestos in our workplaces are well underway.

⁴³Hammond, E.C., and Selikoff, I., (1972) and Hammond, E.C., and Selikoff, I., and Seidman, H. (1979) reported in Workplace Exposure to Asbestos, DHHS (NIOSH) 1980, pp 27.

It will also be interesting to see what evidence comes out of the cross-complaints in the U.S. where Standard Asbestos Manufacturing and Insulation Company of Kansas City, on being sued by workers and their dependants for damages to their health from asbestos, have turned around and sued six major tobacco companies. This may be the first time in history that major corporations spend money to prove the workers' case. We await the outcome with great interest.

Degree of Health Risk Among Workers and the Public

Any level of exposure above zero, is associated with some degree of risk, since there is no threshold below which clinical effects do not occur.

All the major commissions and committees, as well as the International Agency for Research on Cancer have reached this same conclusion.

There is much evidence that even low level exposure or short duration exposure increases risk.

Anderson et al, reported on 37 mesotheliomas in people whose only contact with asbestos has been living in a home with an asbestos worker. Most of these victims were women since they would be more likely to be exposed during laundering times.^{44.}

Anderson, in 1976 and again in 1979, found that 35% of the family contacts of asbestos workers were found to have radio-

^{44.} Anderson, H.A., Lilis, R. Daum, S.H., et al, "Household contact Asbestos Neoplastic Risk", Am N.Y. Acad. Sci., 271 pp 311-323, 1976

logical abnormalities characteristic of asbestotic disease.^{45.}

Selikoff described four of the victims of mesothelioma studied by Anderson et al, at a 1976 conference in New York City sponsored by the New York Academy of Sciences;

"In the last three months, three persons who were children at the time their relatives worked in the Paterson plant were found to have mesothelioma. One of the three died of the disease in June at the age of 44. Her father had worked the day shift at the UNARCO plant for a year in the mid-1940's, and she took him a hot meal every evening, waiting outside the plant for her father to pick it up. Another patient was indirectly exposed to asbestos for just six months when she was four years old, and in the third case, the patient's father had worked at the plant for a year. This patient's sister, a nonsmoker died of lung cancer at the age of 39. A fourth person, the daughter of the man who developed the asbestos material made by UNARCO, died in 1945 of mesothelioma, the same disease that took her father's life 14 years earlier."^{46.}

There is also extensive evidence that mesothelioma occurs from just living in the neighbourhood of an asbestos mine, mill or factory.

"On the basis of numerous anecdotal reports, indirect assessments, and case-control studies, there seems little doubt that both pleural and peritoneal mesotheliomas may result from some types of residential exposure to asbestos. However, there have been no adequate population-based studies, and an accurate estimate of risk, where occupational and household exposure are definitely excluded, cannot be made. On the basis of one case-control study of mesothelioma

45. Anderson, H.A., Lillis, R., Daum, S.H., et al "Household exposure to Asbestos and Risk of Subsequent disease" reported in Workplace Exposure to Asbestos, DHHS (NIOSH) pp 30 1980

46. Brody Jane, "Cancer Found in Asbestos Workers' Kin" NY Times, Sept. 19, 1974

patients, relative risk of mesothelioma was estimated at 2.1 for residentially exposed, and 4.3 for occupational exposed, persons.^{47.}

In terms of short duration of exposure, Selikoff analysed death from all forms of asbestos disease among 933 amosite asbestos workers with the duration of exposure and found the following:

Deaths of all "asbestos disease" among 933* workers employed in an amosite asbestos factory, starting five years from onset of work 1941-1945 to December 31, 1974. Effect of duration of exposure.

<u>Duration of employment</u>	<u>No.</u>	<u>Death of "asbestos disease" 1946-1974</u>		
		<u>Expected</u>	<u>Observed</u>	<u>Ratio</u>
less than 1 month	62	3.47	6	1.73
1 month	92	3.73	8	2.14
2 months	79	3.73	11	2.95
3-5 months	145	5.98	17	2.84
6-11 months	129	4.15	21	5.06
1 year	105	3.74	20	5.35
2 years	77	2.91	24	8.25
3-4 years	51	2.36	15	6.36
5+ years	65	2.88	34	11.81
Total	805	32.95	156	4.73

* "Asbestos disease": asbestosis and chronic pulmonary insufficiency, lung cancer, pleural and peritoneal mesothelioma, cancer of esophagus, stomach, colon-rectum.

128 workers were omitted from these calculations: 33 had prior asbestos exposure; 38 died in the first five years after onset of employment. 49 were not completely traced; and eight had other asbestos employment after the five year from onset point. ^{48.}

Less than one month's exposure almost doubled the number of deaths that were expected. Six to eleven months exposure increased the number of deaths by a factor of five.

^{47.} Levine, R.J. ed., Asbestos: An Information Resource, NCI, HEW, PHS, NIH, May 1978

^{48.} Selikoff, I., in letter to Stephen Lewis, January, 1976.

Clearly, household, neighbourhood and short duration occupational exposure increases risk.

If low doses do, in fact, mean longer latency periods, before the onset of disease, perhaps, assessment of risk now, will grossly underestimate the actual risk found in the future.

Our conclusion remains, any exposure to asbestos carries some degree of risk.

Is Any Particular Degree of Risk Acceptable?

The question is - acceptable to whom? To the corporations? To the government? To the workers? Or to the parents of children in the schools across Ontario where asbestos was found?

Clearly the last group found any risk unacceptable or we would not have this Royal Commission.

The Ontario government (Ministry of Labour) appears to find some degree of risk acceptable for workers or they would not have proposed standards for which asbestos could cause between 0.02 and 1.25 per cent excess deaths in the workers exposed.⁴⁹. The Ontario Government (Ministry of Environment) was also quick to reassure the public that there was no risk from drinking water in Thunder Bay, taken from Lake Superior where Reserve Mining Company in Minnesota had been dumping Taconite trailings. Lakehead University had found 14 to 15

⁴⁹. McGinty, L., "Controlling Cancer-Asbestos Shows the Way," New Scientist 84, 1178, Oct. 25, 1979 pp 251

million fibres of asbestos per litre of tap water in Port Arthur.^{50.} The Ministry of Environment had found only 83,000 fibres per litre.^{51.}

The federal government seems to accept risk by placing a 2F/cc environmental standard for the air around asbestos mines and mills in the country.

The risk that the Ontario government has indicated that is unacceptable is the exposure of children to asbestos in the schools. Hugh Nelson, former director of the Occupational Health Branch, in the Ministry of Labour, indicated that there should be no asbestos and the Ministry of Education and Community and Social Services, albeit with a good deal of public pressure, has developed a programme for identification, encapsulation, and enclosure and removal.^{52.} We do not feel that encapsulation and enclosure ultimately removes the risk but we will deal with that in the chapter on Public Buildings.

Given the findings of all the major committees' reports that there is no safe threshold, industry clearly finds risk to the public and especially to workers, as perfectly acceptable. Dr. Michel Lesage, the medical consultant to the Quebec Asbestos Mining Association, would have us exposed to ten times the current guideline in Ontario (20 F/cc) but he also finds the 2F/cc level perfectly acceptable. His quote from the British

50. "No Threat" says Newman" Chronicle Journal Thunder Bay, April 24, 1975.

51. Newman, Hon. W., Hansard, Ontario Legislature, Dec. 17, 1974, pp 6516

52. Ministry of Labour, "Inspecting Buildings for Asbestos", prepared for Ministry of Education, Dec., 1979 and, Memorandum to Commissioners, Exec. Directors, Directors, Administrators and Supervisors, Ministry of Community and Social Services, April 17, 1980.

Journal of Industrial Medicine indicated that at the 2F/cc level "it is extremely doubtful that asbestosis will occur,"⁵³ and reference to a study that found no increased risk of lung cancer at 20F/cc for 20 years seems to fly in the face of all of the scientific knowledge gathered to date.

Industry, has been found in examinations for discovery in law suits in the U.S. and in numerous subcommittee hearings to have funded and manipulated research to prove minimum or no risk from asbestos and have suppressed information on the hazards and medical records to workers.⁵⁴

Industry will also bring out extensive cost-benefit analysis and economic impact statements to counter any move to lower or eliminate risk. It is convenient for industry to use cost-benefit analysis since most of the costs of lack of regulation are external to their balance sheets.

We the public, pay a good deal of the costs of failure to regulate. The stringent guidelines for compensation of asbestos cancer and the lack of recognition by workers, the public and physicians that their cancer may be work-related

53. Lesage, M. First Public Meeting, Royal Commission on Asbestos, Oct. 31, 1980

54. Documents including correspondence among senior executives, lawyers, physicians, consultants and insurance companies of Johns-Manville and Raybestos-Manhattan released in San Francisco at the October 1978, Hearings of the Subcommittee on Compensation, Health and Safety of the House Committee on Education and Welfare. Referred to by Epstein, S. Politics of Cancer, pp 89-90.

or environmentally related mean that a good deal of disease is being paid for by the public through OHIP, social security and welfare systems. But the cost of illness and death, of pain and suffering cannot be measured by economic tools without a profound cynicism.

Industry has shown through the vinyl chloride example in the U.S., that they grossly inflate costs to prevent regulation and we will not now turn around and trust the asbestos industry to accurately portray costs and economic dislocation.

The Metropolitan Toronto Labour Council brief will deal with the limitations of cost benefit analysis in greater detail.

Are any risks acceptable to workers? As the central labour body in Ontario, we say no! The problem is, is that the question is never posed that way to workers.

First of all, workers are not told of the real hazards of asbestos by their employers. For instance, the Quebec Asbestos Mining Association published a bilingual pamphlet entitled "Asbestos and Your Health"

"Can a little bit of asbestos kill you? No-long-term medical studies of workers who are exposed to asbestos show that low to moderate levels of exposure do not lead to an increased rate of disease. In these studies, a higher-than-normal incidence of disease was found only among employees exposed to extremely high asbestos concentrations for long periods of time."

Why is there no mention of cancer? Given all of the major committee reports reviewed by this Commission, one can only conclude that the statement is simply false and yet that

is the information that workers receive.

The Ontario government has always moved to minimize the risk involved in asbestos exposure and to reassure workers that they are being well protected.⁵⁵ Even the two proposals for asbestos standards from the Ministry of Labour, 1978 and 1980, failed to provide warning signs in asbestos areas to indicate a cancer risk from exposure. In the first proposal the warning signs to be required were:

"Warning

Asbestos Area

Health Hazard

Use Proper Work Practices "56.

In the most recent proposal, there is no warning sign requirement. U.S., OSHA warning requirements state clearly "Cancer Suspect Agent"

Given that workers are not informed of actual risks the second feature of the question posed is "your job or your health?" Although, few real plant closures occur over health and safety regulations, the threatened loss of jobs is a very compelling argument for workers who know nothing will be done to help re-locate them in other positions. The immediate

55. Frank Millers reassurance that the Johns-Manville plant posed "no current health problem" in "No Health Problem over Asbestos Plant - Minister States" Globe and Mail, Feb. 6, 1975 and Hon. Leo Bernier's denial of risk at Matachewa United Asbestos Mine when two months later they were forced by the province to close down and clean up. "Better Operation Bernier Disputes Lewis Charge on Asbestos Firm" Toronto Star, Feb. 27, 1976 and "Asbestos Plant Told to Close and Clean Up" Toronto Star, Apr. 13, 1976

56. "Notice of Intent to Regulate Lead, Asbestos and Silica and Occupational Health Hazards" The Ontario Gazette, July 22, 1978, pp 8

threat of unemployment and lost wages when compared to a "minimized" health threat in the future, does not lend itself to support of tough regulation. Even despite this blackmail, increasing numbers of workers, who are aware of actual risks, through education programmes in their unions and through the Ontario Federation of Labour, are refusing to give in.

The question posed to workers is unfair. We recognize that mandatory substitution of safe alternatives for asbestos will create economic dislocation and loss of jobs, but the substitute industry has not been encouraged to develop and could provide many, many new jobs. The development of new control technology for the removal from and renovation and demolition of buildings and the safe disposal of asbestos could also provide new jobs.

Good economic planning is essential in this process to minimize the human impact of this dislocation. The reality is, that throughout the Western World, the use of asbestos is being phased out, with Europe in the forefront. The dislocation is already occurring.⁵⁷. In Ontario, Matachewan is closed, Johns-Manville transite pipe operation is closed, Bendix is closed and Raybestos-Manhattan has indicated that it intends to get out of asbestos in its 1977 Shareholders' Report.

This Commission and the government can ignore the reality and continue to promote workplace standards that provide risk

57. "Quebec Asbestos Industry Forecast to Face Hard Times," *Globe and Mail*, December 31, 1980. pp B-1

to workers and promote programmes that merely seal asbestos fibres in public buildings for the present or you can recommend a carefully constructed programme of mandatory substitution of proven safe alternatives with planned development of safe substitute industries and regulated removal of asbestos from public buildings with stringent control requirements to protect the workers and the public during removal, renovation, demolition and disposal.

The Commission must ultimately answer this question and live with the consequences. "Is any particular degree of risk acceptable to you?"

III THE EXPOSURE OF WORKERS TO ASBESTOS

Asbestos Operations and Exposures for Workers

"Asbestos has been a known health hazard for almost 35 years and yet during this same period, on a worldwide basis, the use of asbestos has risen at an accelerating rate." 58. There are well over 3,000 recorded uses of asbestos but the main products using asbestos are as follows:

Major Products	% of Market	% Asbestos		% of Market	
		U.S.			
		U.S. (*)	Canada		
Asbestos Cement)				
Building Materials	) -	70%	10 - 70%	10 - 16%
Asbestos Cement Pipe	)			31%
Floor Tiles	) -	10%	8 - 30%	8 - 40%
Brake Linings, Gaskets,	)		30 - 80%	10 - 70%
Clutch Facings	)			21%
Points	) -	20%		
Insulation, Steam)				
Pipe Coverings and	)		10 - 100%	
Others)				
Paper Felts			5 - 100%	80 - 90%	
Asbestos Textiles				9%	
Other				8%	
				6%	

58. Rajhans, G.S. and Bragg, G.M., *Engineering Aspects of Asbestos Dust Control*, Ann Arbor Science, Publishers Inc., Ann Arbor, Mich. 1978, pp 17

* U.S. percentage of asbestos in products were taken from Levine, R.J. ed. *Asbestos An Information Resource*, NCI, HEW, NIH, May 1978 chapter IV

Other information in the chart was taken from The Interim Report on the Designation of Asbestos Ontario," Occupational Health Division, Ministry of Labour August 1980. Canadian figures were taken from "Use of Asbestos by Manufacturing Industries in Canada" by Gyan Rajhans of the Ministry of Labour.

There are five major categories used by the Ontario Ministry of Labour to describe occupational asbestos exposures in Ontario:

<u>OPERATION</u>	<u># OF WORKERS</u>
Mining and Milling	200 Workers
Handling and Manufacturing	Several Thousand Workers
Installation of Asbestos Products in Existing Structures)
Demolition or Removal)
Asbestos Released From Products in Working Environments i.e. - installation and repair brakes and clutches Schools, offices Plants	) - 10,000's ?

There are currently 15,000 asbestos workers under surveillance by the Occupational Chest Diseases Service in Ontario, but many, many more are not monitored.

59.

Asbestos

Mining and Milling in Ontario

There have been four mines operating in the recent past in Ontario and only one is still in production.

1. Munro Mine in Matheson outside Timmins, Ontario closed in 1968. It is estimated that about 2,000 miners worked at Munro during its operation but employment records have been lost or destroyed.
2. Reeves Mine in Reeves township outside Timmins, Ontario closed on March 5, 1975, owned by Johns - Manville Mining and Trading Company Ltd. Timmins, Ontario. It is estimated that between 800 and 1,000 miners worked at Reeves during its operation.

During the last six years of its operation, the levels of exposure increased dramatically. Fibre readings were taken on a monthly basis from January, 1969 on, they were read by the Mines Accident Prevention Association, and sent to the Ministry of Natural Resources.

The overall average of the fibre counts were around 2 F/cc in the early months of 1969. The averages started to increase through 1969 to averages of 7.0, 7.8, 8.2, 8.5, 9.2 F/cc in May, June, July, August and September 1970. Individual high readings were 27.5 F/cc, 46 F/cc, 51/cc, 68 F/cc in February 1969, June, May and September 1970.

Finally, in November 1974, Jeffrey Industrial Hygiene Laboratory was brought in by Johns-Manville to test for asbestos fibre.

The average of all the readings was 14.7 F/cc. Incredible levels of 75 F/cc, 74 F/cc, 25 F/cc, 29 F/cc and one 225 F/cc were recorded.

The company claimed it could not meet Ontario's guideline of 2 F/cc since the remaining life of the ore body did not justify expenditures of more than \$500,000 required for a dust handling system in the mill.

While this information is historical it indicates a number of important points. Industry's claim that the health hazard is related only to the bad old days before 1960⁶⁰. is not true in terms of current knowledge of low level risk but, the bad old days were also as recent as 1974 and 1975. While Johns-Manville was claiming that all was well and exposures in their operations were well below 2 F/cc, their Ontario operations were obviously being ignored.

The Ontario Ministry of Natural Resources, then responsible for miners' health and safety showed a callous disregard for human life in allowing such exposures.

And finally, what of the thousand workers who were exposed to these terrifying levels. Some attempt was made to contact them immediately after the close down, but what has been the follow up? By March 3, 1969, 433 of the some 3,000 miners in all asbestos mines had been looked at.

3. Matachewan Mine in Midlothian township outside of Kirkland Lake, was closed in April 1977. It is estimated that some 500 miners worked at Matachewan during its operation. Matachewan Mine was owned by United Asbestos.

Not six months after the Reeves Mine closed in a wave of controversy, Matachewan opened in September, 1975. An inspection by G. Rajhans on September 20, 1975, produced the following statement.

60. Rajhans, G. Occupational Health Protection Branch, Ministry of Health, Field Visit Report September 22, 1975

"General: The coveralls and faces of several workers were found to be totally covered with asbestos fibres. Many of them were found to be working in a dusty atmosphere without any respiratory protection. Each floor of the mill and more than one piece of equipment leaking badly. Asbestos fibres were accumulated almost everywhere. In conclusion, I must admit that I have not seen any asbestos manufacturing and using industry having such a poor working condition from a health point of view as the above mentioned company at present has."

61.

The workers never saw that report until it was made public by Stephen Lewis, M.P.P. Asbestos levels at the work camp six miles away from the mine were twice as high as the acceptable environmental level.

On March 31, 1976, levels of 12 F/cc were noted, by April 13, 1976, levels reached 43 F/cc and the mine was closed for clean-up.

Matachewan reopened some weeks later but was never able to get to full production. After a number of months United Asbestos closed the mine claiming that it couldn't meet the occupational health requirements although the real reason was bad management accounting practices according to the Mercantile Bank who foreclosed on a loan to United Asbestos.

Again, the points made before apply except for comments on Johns-Manville.

4. Hedman Mines outside Timmins, Ontario. This is a small operation with 15 to 20 employees.

The Occupational Health Protection Branch found 6 F/cc and 8 F/cc readings over 30 minute sampling periods in June 1976. The company claimed that these readings were not over the 10 F/cc ceiling value that Mr. Peter McCroden, Director of the Mines Engineering Branch had informed them could be permitted for one hour provided the next four

hours exposure was zero. This is not what ceiling values mean. Nor was this what the Occupational Health Branch measuring at the Hedman Mine. Neither the company or the Ministry responsible, even understood the whole concept of time weighted averages or ceiling limits. Some protection for the asbestos miners in Ontario!

A 1975 study in Quebec, showed asbestos fibre levels of 5 F/cc in the open-pit mines to levels of 16 - 35 F/cc in the milling operations. Were the bad old days really prior to 1960 as the QAMA suggests?

Handling and Manufacturing

The following are the asbestos handling and manufacturing companies we could identify

<u>COMPANIES</u>	<u>LOCATION</u>	<u>PRINCIPLE PRODUCTS</u>
Abex Industries Limited, Friction Products Division	Lindsay	Friction materials
Able Gasket & Materials Ltd.	Weston	Custom Fabrication Gaskets
Albion AAP Inc.	Toronto	
Asbestonos Corporation Ltd.	Ottawa	
Asbestos Building Supply Ltd.	Toronto	
Bendix Automotive	Windsor	Brake Pads
Canadian Durabla Ltd.	Belleville	Gasket sheets
Canadian Johns-Mansville Co. Ltd.	Port Union	Asbestos cement pipes
Certified Brakes	Rexdale	Brake pads
Columbia Acoustics and Fireproofing Co.	Mimico	Fireproofing materials insulations

Cronin Fire Equipment Ltd.	Mississauga	
Flintkote Co. of Canada Ltd.	Toronto	Vinyl asbestos floor covering
Garlock of Canada	Toronto	Packings and gasket sheets
Grace, W.R. & Co. of Canada Ltd. Construction Products Division	Ajax	
Hemisphere International Manufacturing Co. Ltd.	Toronto	
Hill Machine and Asbestos Products	Downsview	Construction Materials
Holmes Insulation Ltd.	Sarnia	Insulation Materials
Insul-Coustics Ltd.	Blossom Park (Ottawa)	
Marproof Table Pad Co. Ltd.	Toronto	
Mintex Federal	Rexdale	Friction Materials
Plastic & Allied Building Products Ltd., Plastic & Asbestos Products Co. Div.	Hamilton	
R D W. Industries Ltd.	Mississauga	
Raybestos Manhattan (Canada) Ltd.	Peterborough	Friction Materials
Rice, G.H. Processing Ltd.	Desrronto	
Scott Laboratories Ltd.	Pickering	Filters
Robert Soper Ltd.	Hamilton	
Universal Insulations Company Ltd.	Aurora	Electrical Insulation Materials
S. K. Wellrian Company of Canada Ltd.	Vaughan	

The following are approximate fibre concentration for asbestos manufacturing processes. 63.

<u>OPERATION</u>	<u>APPROXIMATE EXPOSURES</u>
Receiving and Warehousing - high levels reflect damaged shipment, unloading accidents	0.2 - 2.5 F/ml typically 1.0 F/ml
Opening bags and dumping done manually high exposures if hooding inadequate or lacking	0.3 - 10 F/ml typically 2 F/ml
Mixing, blending depend on how dry the materials are, intensity and effectiveness of ventilation	0.2 - 10 F/ml typically 2.2 F/ml
Formulation	0.2 to 22.0 F/ml
Finishing i.e. cutting, drilling Machining	0.1 to 8 F/ml mean 1.6 F/ml

63. Levine, R.J. ea, Asbestos: An Information Resource, NCI, DHEW, PHS,
NIH, May, 1978 pp 42 - 43

Table 6

EXPOSURE TO AIRBORNE ASBESTOS IN SELECTED ASBESTOS PRODUCT MANUFACTURING INDUSTRIES

	Asbestos Concentrations (Time-Weighted Average in Fibers/ml) ^a						U.S.	
	Most Operations		Operations with Highest Levels			Name of Operation(s)	Number of Employees	
	Typical	Range	Typical	Range			Production Workers	Total
Friction Products								
Primary	2	0.1-15.0	4	0.5-22.0	Forming or Rolling	4,900	7,300	
Secondary		2.5-6.5					34,500	
Asbestos Paper								
Primary	1	0.75-2.7	2	0.3-2.8	Fiber Introduction	1,100	4,500	
Secondary		1.0-3.5					198,000	
Asbestos-Reinforced Plastics								
Primary	1	0.2-2.5	2	0.5-3.0	Fiber Introduction	900	2,600	
Secondary		0.5-2.0					11,000	
Cement Pipe								
	1.5	0.25-3.5	2	0.6-4.5	Finishing	1,600	2,400	
Cement Sheet								
Primary	2	0.3-8.7	3	0.9-8.4	Dry Mixing, Sanding	600	1,300	
Secondary		1.0-6.0					24,000	
Floor Tile								
	1	0.5-4.3	4	0.9-4.3	Fiber Introduction	2,900	6,700	
Textile								
Primary	4	0.25-10	4	2.0-10	Carding	2,400	3,700	
Secondary		2.0-6.0					7,500	
Paints, Coatings and Sealants								
	1	1.0-2.5	2.5	1.5-8.0	Fiber Introduction	350	3,000	

^aOptical-microscope-visible fibers, 5 μm long or longer.

Sources: Daley AR, Zupko AJ, Hebb JL: Technological feasibility and economic impact of OSHA proposed revision to the asbestos standard. Roy F. Weston Environmental Consultants-Designers, March 1976 (prepared for: Asbestos Information Association of North America).

Exposures at Johns-Manville will be dealt with in some detail in the Energy and Chemical Workers Union's brief. Readings in January, 1974, showed a range of 0.7 F/cc to 4.0 F/cc with 21% of the readings over the TLV. In November, 1974, the range was 0.4 F/cc to 4.4 F/cc with 37% of the readings in excess of the TLV. A great deal of political pressure has meant that the levels have been reduced significantly.

Installation of Asbestos Products in Existing Structures

The exposure levels vary according to the percentage of asbestos in the products to be installed.

INSULATION TRADES

- application of pipe lagging (15% asbestos) 5 - 6 F/ml
- cutting, drilling fire proof board 0.7 - 4.5 /ml
- spraying insulation discontinued in Ontario in early 1970's 30 - 100 F/ml

All of these operations expose other workers in the area who are not working directly with asbestos products. Sélikoff calls the effects of this "by-stander" disease.

INSTALLATION OF FLOOR TILE, ROOFING, SIDING

- asbestos floor tile should release few fibres on all installation unless it is cut. However, when installing new tiles, the old are often sanded with a coarse grit 1.2 - 1.3 F/ml with great fluctuations

USE OF SPACKLING, PATCHING
AND TAPING COMPOUNDS

- hand sanding, pole sanding 2.3 - 47.2 F/ml
- mixing dry spackel with water and sweep up

DEMOLITION AND REMOVAL

RIP OUT OF OLD INSULATION

- removal of 100% asbestos 62 - 159 -
- lagging, sprayed insulation 353 F/ml
- coating and clean-up on a ship Average 248 F/ml
- Levels at Toronto International Airport Terminal I, stripping asbestos insulation 5 F/cc
- 64.
- Furnace repairmen

DEMOLITION

- exposure will depend on amount of asbestos in building. The exposures are very high if explosives are used to demolish, but general demolition produces very high levels.

ASBESTOS RELEASED FROM PRODUCTS IN WORKING ENVIRONMENTS

BRAKE AND CLUTCH REPAIRS

- blowing out drum brake assemblies, grinding old brake linings, bevelling new truck brake linings 10.5, 3.75 and 37.3 F/ml
- blow out at 3.5 ft from operation 16 F/ml
- grinding 4 F/ml
- bevelling 37 F/ml

64. "Asbestos Dust Levels Called Hazardous to Workers at Airport Building Site." Globe and Mail, March 23, 1977 The Ironworkers Brief will deal with this problem

WEARING ASBESTOS GARMENTS

- hoods, coats, mittens and leggings in hot or firey industrial settings i.e. steel making, metal refining 9.9 - 26.2 F/ml
TWA 4.7 F/ml
- unlined asbestos fire fighters helmet 2.3 F/ml
- alumunized asbestos cloth helmet cover 0.F/ml

EXPOSURES IN PUBLIC BUILDINGS,
OFFICES, OR PLANTS

- levels found in schools, etc. have been minimal but they are usually taken when no activity is occurring, normal school activity would increase the airborne levels
- A study of storehouses by Lumley et al 0.26 - 11.89 F/cc
65.
- certainly plants with a good deal of vibration from machinery would have increased airborne fibres, especially since many insulated pipes are not covered with ceiling
- maintenance personnel would have higher exposures from rip out and installation of asbestos materials

ELECTRICAL INDUSTRY

- The United Electrical Workers, Brief will address this problem.

65. Reported in Rajhans, G. and Bragg G.M., Engineering Aspects of Asbestos Dust Ann Arbor Science Publishers, Inc. Ann Arbor, Mich., 1978, pp 88

TOLL BOOTH OPERATORS AND
PARKING LOT ATTENDANTS

- toll booth concentrations in New York City 66. 3 - 5 times background levels
- a toll booth operator in Connecticut received a compensation claim for mesothelioma

GARBAGE COLLECTORS AND
LAND FILL OPERATORS

- Obviously the ripped out insulation, the waste products from construction and the asbestos industry, as well as household asbestos waste from home repairs and insulation will be thrown out. Exposures to garbage collectors and land fill operators can be totally unknown and could be quite high in handling

SCHOOL JANITORS AND MAINTENANCE
PERSONNEL, TEACHERS AND LIBRARIANS

- The U.S. Environmental Protection Agency has stated that janitors and other maintenance personnel will regularly encounter -- intense exposures. Simply cleaning and moving books in a library can result in peak exposures of 500 nanograms per cubic metre. 67. Rip out of Asbestos 62 - 353 F/ml

66. Reported in Rajhans and Bragg, op.cit. pp 91

57. "School Workers Subject" to Higher Peak Exposures "Toxic Materials News, Vol. 7, pp 220 July 9, 1980

While these readings are taken from American data, there is no reason to believe that it would be different in Ontario. The only difference may be in the lack of enforcement in Ontario and the lack of monitoring in many workplaces.

Workers were not given copies of Ministry monitoring results until late 1974 or 1975. It was not required by law until January 1, 1977, when the Employees Health and Safety Act was proclaimed.

Regular company monitoring with results posted have yet to be required although the proposed regulations would require this.

WHAT HAS BEEN THE HEALTH EXPERIENCE OF THOSE WORKERS?

Unfortunately, the only source of information on health experience available for most of the asbestos industry in Ontario, is the Workmen's Compensation Board and that does not estimate the true magnitude of the problem.

Although we intend to deal at some length with the problems of the WCB in our May 29, 1981 Brief to this Commission, several points need to be made about the under-reporting of occupational disease.

The Ontario Board recognizes asbestosis, lung cancer, mesothelioma, gastro-intestinal cancer and laryngeal cancer related to asbestos exposure, and although the recognition of lung cancer without asbestosis, gastro-intestinal cancer and laryngeal cancer were only after significant public and political battles, we do feel that this was a major step forward given that many compensation jurisdictions do not recognize the last two cancers and especially laryngeal.

The criteria for award, however, is not in line with the increasing evidence that very short or intermittent exposures to asbestos can cause cancer.

The Board sets several criteria;

- 1) The victim must indeed, have the cancer that is recognized;
- 2) There must be at least 10 years for lung cancer
 15 years for mesothelioma
 20 years for G-I cancer
 20 years for laryngeal cancer

from onset of employment to time of onset of disease -
latency period.
- 3) There must be continuous and repetitive exposure to asbestos
for at least 10 years for lung cancer
 10 years for mesothelioma
 many years for G-I cancer
 10 years for laryngeal

And then they indicate that the benefit of the doubt will be given.

It is especially the requirement for continuous and repetitive exposure that is the basis for continual denial of claims. One claim in particular, dramatizes this point.

The diagnosis was "terminal mesothelioma," there was clear evidence of exposure to asbestos, however, his claim was denied because there was inadequate exposure duration.

The plant where he worked had two buildings on the same grounds - Holmes Foundry and Holmes Insulation in Sarnia, Ontario. He worked in the Foundry from 1952 until 1959 and 1962 to 1978. In 1962,

he spent five weeks as a night watchman which took him through the insulation plant and it was estimated that he spent 20 minutes per shift in asbestos exposure.

Even the employer did not contest the claim and yet, the Board in its infinite wisdom, rejected the claim stating that their was insufficient exposure (eight hours and twenty-minutes).

What they failed to recognize is that there was asbestos all over the property at Holmes. The insulation workers used to walk back and forth in the foundry to get supplies, they ate lunch in the same lunch room "covered in asbestos," piles of asbestos were dumped in heaps on the grounds and trucks would pass by the open windows of the foundry regularly to the dump, with no cover on the asbestos.

The asbestos was literally everywhere on the property and yet he had 8 hours and 20 minutes exposure. But even if he had not had this additional exposure, there is more than enough evidence to indicate that the short time would have been enough.

On top of all that, he was diagnosed as having mesothelioma, a very rare cancer and in most cases, almost always related to asbestos, it is in fact, called "The asbestos cancer."

Luckily, this man belonged to a union, who took up the appeal on behalf of the widow and approached the Federation of Labour for help. The case was actually won at the appeal stage.

It cannot be said that this is a story with a happy ending for no amount of money let alone, a monthly pension of \$ _____ can ease the pain and loneliness of that widow. It shows the unfairness of such criteria and there are hundreds of cases like that where a widow has no support or knowledge to launch an appeal or where the Board becomes intransigent over their criteria. It also indicates how under-reporting can happen when using WCB figures.

On top of that there is an under-recognition of occupational disease by most family physicians. A miner who worked even several months at Munro, Reeves or Matchewan Mines, will have moved on to other jobs which may not have asbestos exposure and if he develops the disease say fifteen years from now, he may not remember nor is his family physician likely to ask.

A study, carried out in the U.S., showed that 28 out of every 100 American workers were suffering from job-related illness but only 3% of those illnesses were reported in the workmen's compensation records. This study showed that 18% of the illness found in American workers was dermatitis or irritation of the skin, 28% was accounted for by hearing loss and the remaining 54% was respiratory conditions, toxic effects, eye conditions, anemia and diseases of the musculoskeletal and connective tissues. In other words, almost a third of American workers are suffering from serious diseases as a result of their work and only a very few were reported in the official statistics. 68.

68. Discher, D.P. et al "Pilot Study For Development of an Occupational Disease Surveillance Method," HEW, Publication No. (NIOSH) 75 - 162

While disease related to asbestos is probably better recognized than most occupational diseases, meaning a higher percentage of reporting by the WCB, we still maintain that their figures underestimate the true magnitude of asbestos disease. We also feel that a very major proportion of the disease from Ontario exposures has yet to be seen. If workers were exposed to levels of 43 F/cc, 70 F/cc, 225 F/cc or even 4 F/cc as late as 1974, we have not passed an adequate latency time for those workers who began exposure then to show the clinical effects of cancer. And if it is true that low exposures lengthen the latency period, the victims of present so-called "clean" operations, will not be seen until well into the 21st century.

Appendix I contains the reported and accepted claims for asbestos-related diseases between 1960 and April 1980 with a breakdown by company of asbestosis and mesothelioma cases. You will notice that the question asked was for "each type of asbestos-related disease and a separate total for each type of disease by company." What was given was only information of two diseases by company with no mention of lung cancer, GI cancer or laryngeal cancer by company, even though there were 46, 7 and 3 cases respectively. This is the kind of incomplete information that all of us have to deal with in the matter of occupational disease.

LINKAGE BETWEEN RECORDS OF EXPOSURE AND HEALTH - ARE THEY ADEQUATE?

At the present time, it is probably fair to say that the linkages between exposure and health records are non-existent for the vast majority of workers who have been exposed to asbestos. When unions

submit claims to the WCB in almost all cases, the only exposure records that appear in the file are Occupational Health Engineering Branch reports, if there are any. In the appeal process, workers have had to rely on descriptions of the dust from fellow employees.

Almost all studies attempting to relate disease to exposure levels suffer the same inadequacies. Either the measurements are non-existent and therefore, there must be subjective descriptions by workers or the measurements were taken by a konimetre or other sampling instrument that does not convert to modern measurements without a great deal of error. 69.

The proposed regulations on asbestos in Ontario will come a long way to correct this situation.

CONTROL TECHNOLOGY

First and foremost, the only acceptable control technology is to eliminate the use of asbestos by substituting a proven safe alternative. Every text book on industrial hygiene indicates that the most effective control is at the source and substitution of a hazardous material is highly recommended.

The least effect control is at the worker with personal protective equipment. Of course, respirators are the cheapest form of

69. NIOSH (1980) op. cit. pp 31

control and therefore, most often selected. Even worse, the respirators selected are totally inadequate to provide all but a minimum degree of protection.

Ultimately a society has two choices - to eliminate or control or limit exposure. We choose the former for all occupational exposures to asbestos.

FUTURE USE OF ASBESTOS IN ONTARIO

Future uses of asbestos, of course, depend on the actions of the Ontario government. Several of the major users have already "gotten out of asbestos" as we stated before. With more information available to workers through this commission, the media and educational programs, there will be more pressure to use safe substitutes.

With bans on non-essential uses and total bans being proposed throughout the Western World, one only hope that Ontario does not become one of the last bastions of asbestos use.

SUBSTITUTES

As a result of the threat of these bans looming in the immediate future, a great deal of research is going on in major corporations to produce substitutes.

CONSTRUCTION INDUSTRY

By far the most extensive use of asbestos is in the construction industry. It accounts for 70 to 80% of the total U.S. consumption.^{70.} Other estimates have placed it at well over 50%.^{71.} This includes asbestos cement pipe, asbestos cement sheets, floor products, roofing products, insulation and wall finishing products i.e. taping.

1. Asbestos Cement Products

There are a number of substitutes available, but the most promising one is a high zirconia, alkali-resistant glass fibre which has been developed in England called "Chem - FIL" marketed by Pilkington Brothers Ltd. It is fatter and longer than asbestos. Since fibre size i.e. diameter appears to be the key to carcinogenicity in asbestos, it is assumed to be safer. The health hazard may come in, if there is break-up in the process stage. This has not been fully determined. It is irritating to skin as are all glass fibres.

The cement boards or pipes using "Chem - FIL" are more impact resistant than asbestos cement and are fire resistant.

The real drawback for industry at the present time is cost. It is four times as expensive. Remembering that the asbestos industry has had a monopoly in this field and that the technology for "Chem - FIL" reinforced cement is still in its infancy,

70. Levine, R. J. ed op. cit. pp 15 - 16

71. Pye, A.M. "A Review of Asbestos Substitute Materials in Industrial Applications," J. of Hazardous Materials, 3 (1979) pp 125 - 147

the costs are bound to come down if substitution is required.

2. Floor Products

Substitutes include linoleum, poly vinyl cork and rubber.

The British Advisory Committee found that there were many alternatives and complete elimination of asbestos is probable.

Each of the substitutes have health effects in their processing but these can be eliminated by good engineering controls.

3. Roofing Products

The use of asbestos in roofing is already declining, with substitutes including fibre glass and organic felt made of treated rags and newspaper.

We will discuss the hazards of fibre glass at the end of this section.

4. Insulation

Insulating Board

Mineral wool products are cost competitive. Vermiculite is often mixed with glass fibres to provide insulation and fire protection and structural integrity. Vermiculite has been tested on fifty rats with no cancer (Brit. J. Ind. Med. Vol. 30, 1973 pp 167).

Also plaster board, glass reinforced gypsum, and low density reinforced cement can be used. The British Advisory Committee agrees that satisfactory substitutes exist but the cost is more. Again further development may well mean lower costs.

Spray Insulation

Vermiculite spray, alumina-silicate and mineral fibre spray can replace, but it is best not to spray at all. Asbestos has almost been completely replaced for insulation purposes by such substitutes as calcium silicate, cellular glass, mineral wool, fibre glass and expanded perlite.

5. Wall Finishing Products

Asbestos has already been replaced in taping.

TRANSPORTATION

The use of asbestos in transportation makes up about 14% of the U.S. asbestos consumption in brake linings, clutch linings and pads.

A number of substitutes have been developed.

"The Australian company Paton Brake Replacements has developed asbestos-free brake linings which are superior to asbestos linings and have a higher durability. These linings are now available for disc brakes on practically all types of cars. Brake linings for heavy trucks, etc. are being tested and the marketing of them is expected in the near future. The National Swedish Board of Industrial Safety has tested the asbestos-free brake linings and found that they do not contain any hazardous substances.

General Motors has asbestos-free brake blocks available for all small vehicle types and also for light pick-up trucks. The company states that there are no technical obstacles, but that the customer's requirement is the guideline. The above facts regarding asbestos-free brake linings imply that the authorities can require that vehicles be equipped with asbestos-free brake linings."

72.

Dunlop has developed a metallic type friction pad which performed better than asbestos in wet conditions.

Delaminated vermiculite is used in friction materials available commercially in Europe. They are often now mixed with asbestos to lower asbestos content. Vermiculite holds its strength at high temperatures and mixes easily with phenolic resins, so that alteration to the manufacturing process is unnecessary.

The Concorde uses carbon/carbon composites and racing cars have used it as well. These linings are considered more efficient under high temperature conditions but their high costs mediates against widespread use.

ELECTRICAL INDUSTRY

The electrical industry consumes about 5 to 6% of all asbestos in the U.S. It is used in the from of papers, tape, cloth and board.

Glass fabrics or ceramic fibre cloth tape or sleeves can be used but both glass fibres and ceramic fibres have potential for carcinogeneity.

ASBESTOS TEXTILES

In Sweden a flame-proof wool is available and a fabric of silicon dioxide which is extremely resistant to high temperatures and abrasions when handling molten steel is available in Germany.

In England heat resistant leather lined gloves and Nomex blankets were found to be superior to asbestos in heat resistance tests and more comfortable. 73.

HEALTH HAZARD OF GLASS FIBRES

Since the hazard connected with asbestos appears to be related to the physical nature (i.e. length and diametre) of the fibres, rather than the chemical make-up of asbestos, it makes sense that any fibre that closely imitates asbestos dimensions could cause the same health effects. 74. Unfortunately the substitute industry efforts have been to do just that.

Fibre glass fibres have been getting short and thinner, but this type of fibre have not been in commercial use long enough to provide adequate latency time for human cancer development.

Animal tests show that rats and hamsters develop mesotheliomas when injected intrapleurally with fibre glass. 75.

Other test show that the diametre and length of the glass fibre is important in rat studies. Fibres that are long and thinner are much more carcinogenic than short thick fibres. 76.

73. "Firemen Freeze out Asbestos" New Scientist, 30 September 1976 pp 675

74. Pye, A.M., o.p. cit. pp 143

75. Pylev L. (1979) reported in NIOSH (1980) op. cit. pp 15
Smith, W.E., Hubert, D.D. and Sobel, H.J. (1979) reported in NIOSH (1980) pp 38

76. Stanton, M.S., Hayard, M., Miller, M., et al 1977 reported in NIOSH (1980) o.p. cit. pp 15 - 16

Additional evidence has been provided by a study of a Turkish village - Karain (which means "pain in the belly" in Turkish). Of a population of 6 to 800 people, 24 people died of mesothelioma between 1970 and 1974, that was almost half of the total deaths for that period. In the next two years 16 more died of mesothelioma or pleurisy.

Originally asbestos was suspected, but a further analysis showed the fibres to be volcanic silicates called zeolites. Fibrous zeolites had been used in Karain for building blocks and roads. ⁷⁷.

A subsequent report of mesothelioma from fibre glass in Japan was found to be incorrect when Dr. Margaret Sloan of the U.S. National Cancer Institute found asbestos exposure in two jobs that the victim held 30 years before.

Nevertheless, the doubt about the safety of fibre glass is there. In Ontario fibre glass is treated as a nuisance dust which is totally unacceptable. Until it is proven safe, it must be considered a carcinogen and treated accordingly.

All substitutes must be pre-tested before they are put on the market. For those in management and government who do not feel that animal tests are acceptable to indicate risk, let them be exposed and workers can count the bodies in the future.

77. McGinty, L. "Cancer Epidemic Raises Doubts on Mineral Fibres" New Scientist, 18 May, 1978, pp 426

All substitutes on the market already must be treated as hazardous until proven otherwise, with proper engineering controls during use.

Research priorities must be placed on testing these substitutes.

We in the Labour Movement have a great faith in Canadian reasearch and development. If the government makes it clear that we want safe substitutes by a programme of mandatory substitution, as well as financial incentive for their development, we could be in the forefront of the technology.

Nicholas Ashford from MIT. states that tough regulations signal industry to create new technologies and products and are not inflationary. 78. New safe substitute industries could also provide new jobs to ease the dislocation.

HAZARDS FROM NOT USING ASBESTOS

The asbestos industry would have us believe that we will all burn to death if asbestos is not used. There are sufficient substitutes that also give fireproofing and chemical resistance. We just do not accept that argument.

78. Ashford, N. presentation to Lost in the Workplace: Is there an Occupational Disease Epidemic? A seminar sponsored by U.S. O.S.H.A., Chicago September 13 - 14, 1979

III ASBESTOS IN PUBLIC BUILDINGS

Over the last several years asbestos has become a "public health hazard" according to the media. We in the Labour Movement find it frustrating and tragic that the deaths of our fellow workers over the last 80 years didn't somehow trigger a concern about where these deadly fibres end up.

It is discouraging and infuriating that widespread attention and concern is not paid to occupational disease among workers and yet immediate warning signs go off when these same occupational hazards are then found in the general environment. That is certainly not to say that we are not equally concerned about exposure in public buildings or the fact that our children are exposed to asbestos in the schools. We are just angry that at the very time all of the evidence was clear, implicating asbestos and asbestosis and cancer, the government allowed the widespread spraying of asbestos insulation on structural steel and concrete structures.

Most larger buildings with structural steel frames built in Ontario between the late 1950's to the early 1970's probably contain sprayed asbestos. The Ministry of Labour has estimated that there may be 920 to 1,250 buildings in Ontario containing sprayed asbestos materials and these are probably minimum numbers. 79.

79. "Asbestos in Public Buildings," Occupational Health and Safety Division, M.O.L. March 26, 1980

The air space above false ceilings in these buildings are used as the return air plenum for the ventilation system. Loose asbestos can be circulated through the ventilation systems and into the offices, classrooms or work space.

As well, asbestos was used for insulating pipes, boilers etc., and for decorative, thermal and accoustical purposes. It was used in paint and joint fillers, fire curtains and some moulded plastic products.

The asbestos materials of greatest concern are the friable or crumbly materials found in overhead surfaces, beams, ceilings and in walls and pipes that continuously break off and become airborne. Asbestos that collects on floor surfaces etc. can be made airborne by normal human activity.

It has been estimated that 150 schools surveyed across the province contain some degree of asbestos. The number of other public buildings where asbestos presents a hazard is unknown and it is impossible to estimate the numbers of adults and children who are, or have been exposed to asbestos.

While our government and public health officials, with the exception of the City of Toronto Department of Public Health Advocacy Unit, continually reassure the public that the levels are minimum and therefore pose no hazard, their actions defy their rhetoric. If there is no hazard, why is the Ministry of Education

about to spend more than three million dollars on a non-problem? It is time we admitted that there is a problem and get on with the solution!

In the U.S., the Environmental Protection Agency has issued warnings about the hazard and have estimated that with levels of asbestos between 48 and 270 nanograms per cubic metre squared (ng/cm³ - a measurement taken by electron microscopy and not easily translated into fibres per cc) in the schools and approximately three million children exposed, there will be between 116 to 7,654 premature deaths. E.P.A. have therefore defined asbestos in schools and offices as a "serious" risk that should be eliminated quickly. They are convinced that these low levels can lead to cancer and cite a French study in Paris office buildings where cancer in workers support this conclusion. ^{80.}

CORRECTIVE ACTION

There are four approaches that control asbestos exposure in public buildings:

- 1) Removal and Disposal;
- 2) Encapsulation of asbestos material coated with a bonding agent called a sealant;
- 3) Enclosure of asbestos material by a barrier such as a suspended ceiling;
- 4) Deferred action.

80. "E.P.A. Predicts 1,117 Deaths Due to Asbestos in Schools" Toxic Materials News vol. 8, 28, July 9, 1980, pp 219 - 2210.

The approaches are listed in order of their effectiveness in removing or limiting the problem but they are in reverse order when dealing with cost. This is a typical cost - effectiveness relationship in the field of industrial hygiene. The most expensive is usually the most effective but the least effective or less effective method is almost always chosen for so-called economic reasons.

We have no comment to make on deferred action, since it is an approach that is totally unacceptable to us.

In many cases encapsulation is opted for in the schools around this province, because of cost and on the basis that removal creates an incredible hazard where only a "minor" hazard existed before.

Encapsulation and enclosure contain the
but it does not remove the source of the hazard.

One study at Yale University, showed that a latex spray paint sealant of an asbestos ceiling cut down the fibres by over a half but certainly did not eliminate the problem. 81.

Encapsulation and enclosure entails a constant monitoring to see that the seal is not broken or the enclosure altered by general wear or maintenance. It means that the approach will probably have to be repeated in the future and that there will still be the hazard during renovation and demolition. Projecting these

81. Sawyer, R. "Asbestos Exposure in a Yale Building," Envir. Res., 13, 1977, pp 146

additional costs into the future and accounting for inflation, it may mean that these approaches are ultimately more expensive in the long run.

Removal, therefore is the only answer to the complete and permanent elimination of the hazard.

ASBESTOS IDENTIFICATION

Because of the explosive nature of the problem of exposure of asbestos to children, and the hugh media interest, a great deal of measuring of asbestos fibres has gone on, and reassurances have been given that the levels are way below the occupational guidelines 2 F/cc for chrysolite and 0.2 F/cc for amosite and crocidolite and even the environmental guideline of 0.04 F/cc set by the Ministry of Enviornment.

Everyone agrees that the occupational guidelines are clearly inadequate for enviornmental exposures. The 0.04 F/ml or cc environmental limit was proposed by the asbestos industry and only has any value at all, when measuring high levels of asbestos i.e. during demolition. 82.

The only accurate measurement of environmental asbestos exposure is with election microscopy with levels measured in nanograms. Even this method is fraught with difficulties from the actual sample taking, which must be done during normal working activity time to the measurement readings.

What we really need to know is whether or not the material in buildings is asbestos and then we must assume a hazard and act accordingly.

NIOSH has developed a simple inexpensive procedure for identifying asbestos in buildings. The test is a simple colourimetric spot test based on the formation of colour complexes with magnesium and iron released from asbestos. It is not specific for asbestos but can indicate the possibility of its presence at levels as low as 1% of the total materials.

The test of 198 field samples picked up a number of false positives. Out of 126 test positives, 78 were found in further analysis to be asbestos and 48 were not. All of the initial negatives - 72 were subsequently found to have no asbestos. 83.

While positive results will require further laboratory analysis to confirm asbestos, the no false negative results could mean saving a great many needless lab tests.

REMOVAL PROCEDURES

Removal does indeed cause a huge hazard during the procedure so that it must be done with extreme caution to protect the workers involved in removal and disposal and the public:

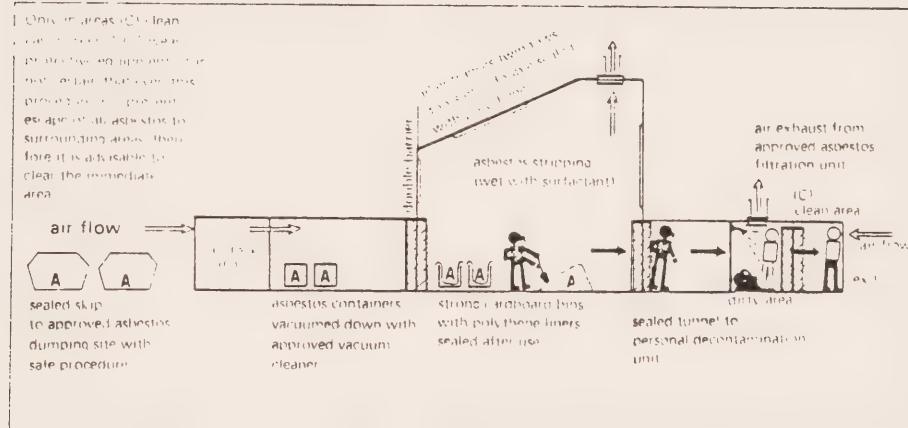
83. "NIOSH Develops Simple Procedure for Detection in Building Atmospheres"
Chem. Reg. Rep., 3, 32 November 9, 1979, pp 1351

1. Removal of asbestos must be done by a governmental agency who will ensure that all precautions are followed and that all workers employed in this operation are fully protected, records are kept and medical surveillance is carried on;
2. All buildings where removal is occurring must be closed to public use, and no other persons than authorized workers should be allowed on the premises during removal;
3. All workers must be fully trained in the real health hazards of asbestos, the procedures to be followed, the use of equipment and in the use of personal protective equipment and the need for carefully followed hygiene procedures;
4. Personal protective equipment must include full face hooded, continuous air line flow respirators, properly cleaned and maintained on a regular schedule, and full length one-piece disposable coveralls with gloves and foot covers. A double locker system with shower facilities between is essential. Before entering the shower, coveralls should be carefully vacuumed and disposed in proper containers. Respirators should be worn into the showers and removed while showering with soap and water;
5. Adequate time must be given to workers to decontaminate before lunch breaks away from the building and before leaving work the end of the afternoon. No food, drink or smoking should be allowed in the contaminated area;
6. The contaminated area must be carefully sealed off with at least double polythene sheets;
7. All materials, books equipment etc., should be carefully vacuumed with high filtration vacuum cleaners and removed from the area;
8. Asbestos should be sprayed with water plus a surfactant i.e. polyoxyethylene ether (a soap solution) before stripping to reduce the the dust.

In the Yale building the wetting agent cut down the stripping time by half;

9. The asbestos waste can be compacted to reduce volume and placed in heavy-gauge (at least 6mm) impervious plastic bags and then sealed in cans for transit by government trucks and burial in regulated waste disposal sites;
10. After the asbestos waste has been removed from the area, it must be carefully vacuumed and cleaned with a high filtration vacuum cleaner. It is necessary to do this three times with 24 hours between cleanings for the dust to settle. The area can then be monitored of any residue;
11. Acceptable fire proofing substitutes must be replaced for any asbestos that was used for that purpose. The box below indicates a pictorial representation of a safer asbestos stripping procedure.

Safer asbestos stripping procedure



This entire procedure was followed at Yale University's Art and Architecture Building and cost approximately \$2.50 per square foot or \$ 62.500 in 1975 to 1976. 84.

84. Sawyer, R, op. cit. reported in Asbestos Killer Dust A Worker Community Guide: How to Fight the Hazards of Asbestos and Its Substitute, BSSRS Pub., London, 1979, pp 163 - 171

WHO PAYS?

As it stands now, the public pays through provincial and municipal taxes. Surely the companies who made the profits from the widespread use of this material should share these costs since they knew of the health hazards.

V Other Asbestos Exposures

Environmental and occupational exposures to asbestos come from a number of sources:

- (1) Emissions from mining, milling and manufacturing processes.
- (2) Transportation of asbestos in open trucks or in improperly bagged and sealed containers.
- (3) Emissions from brake linings.
- (4) Emissions from disposal of asbestos tailings, products and waste.
- (5) Emissions during renovation and demolition.
- (6) Emissions from electrical consumer goods.
- (7) Asbestos in the drinking water.
- (8) Asbestos in foods and drugs.
- (9) Asbestos in road building and de-icing salt.
- (10) Asbestos in childrens toys and school activities.

Environmental standards are usually set at levels considerably lower than occupational standards to take into consideration the fact that exposure is over 24 hours per day and that children and old people need extra protection. Hence we have a guideline of 0.04F/cc set by the Ministry of Environment.

(1) When Matachewan was in operation levels of 0.1F/cc was found six miles away from the mining and milling operation.⁸⁴.

Outside Johns-Manville at the Sir Oliver Mowat Secondary School one reading was 0.057F/cc.⁸⁵.

Almost all asbestos operations dumped waste on their property and there have been descriptions of asbestos blowing around the Holmes Insulation operation, Bendix and Johns-Manville.

- (2) At mining and milling operations asbestos is often transported in open trucks between the mine and the mill. Transportation to manufacturing can have some emissions when bags are broken. And finally, asbestos waste dumped for collection can be carried to disposal sites in open trucks.
- (3) The brake manufacturers state that the braking operation lead to the thermal degradation of the asbestos to a non-fibrous dust.

However, measurements taken at a toll booth in New York City showed airborne concentrations of three to five times background levels.⁸⁶.

⁸⁴. "Asbestos Above Limits Six Miles Away" Toronto Star, March 3, 1976.

⁸⁵. Chatfield, E. J., Asbestos Determination in Filters Collected at the Sir Oliver Mowat Secondary School, Ont. Research Foundation, February 23, 1972.

⁸⁶. Rahjans, G. and Bragg, G. op.cit. pp.91.

Measurements at a San Francisco Bay Bridge toll plaza were found to be 1,400 electron-microscope-visible fibres per cubic metre, when background levels in San Francisco were 500F/m³.⁸⁷

Remember the compensation case recognized in Conncticutt of a toll booth operator with mesothelioma.

- (4) Asbestos waste can be mixed with normal city waste and end up loose in municipal dumps or landfill adding to general environmental contamination.
- (5) Renovation and demolition creates great amounts of asbestos dust in the general environment unless done with great care. Dynamite was used for demolition which significantly increased the dust.
- (6) The most recent asbestos consumer story was the emissions from hair dryers which use asbestos filters. Manufacturers were requested to take back the products. There is a good deal of asbestos in electrical consumer items all of which may be a hazard.

⁸⁷. Levine, R. J. ed. op.cit. pp.60.

(7) Airborne asbestos as well as direct dumping of asbestos tailings into water can create a hazard if the water is not carefully filtered.

In 1974 an unpublished International Joint Commission Report found asbestos contamination of the water supplies of Great Lakes Cities.

There was a good deal of debate surrounding the water supply of Thunder Bay being contaminated by asbestos tailings dumped by Reserve Mining Company in Minnesota.

The Ministry of Environment had tested in several cities in 1972 and found

3.87 fibres per litre in Sarnia,
0.83 fibres per litre in Thunder Bay,
and 1.73 fibres per litre in Windsor.^{88.}

Asbestos can also leach or erode into the water supply from pipes made with asbestos.

(8) Several years ago there was great concern about the asbestos in beers and wine. The European Economic Community's 1977 report on Public Health Risks of Exposure to Asbestos found 4 - 7 million fibres per litre in Canadian beer. Fifteen of twenty French wines tested had asbestos fibres with seven samples of between 2 and 40 million fibres per litre. One to twelve million fibres per litre were found in soft drinks.

^{88.} Newman, Hon. W., Hansard, Ontario Legislature, December 17, 1974, pp.6516.

Thirteen to twenty-four million fibres were found in a manufacturers gin.⁸⁹. The asbestos came from asbestos filters and the water supply.

Asbestos filters were used in making fruit juices, sugar, lard, vegetable oil, salt, cider, mouth washes, syrups, tonics and vinegar.⁸⁹.

Asbestos filters were also used in the processing of drugs and blood plasma.

Asbestos has been found in baby powder from talc contamination.

Most of these uses have been discontinued.

- (9) Asbestos has been used in asphalt to obtain improved overlay and increased cohesion and abrasion resistance. Traffic can separate the fibres and make them airborne.

Asbestos salt was used for de-icing.

- (10) Asbestos was used in the schools in Ontario up to some time ago in modelling clay. This was discontinued by Ministry order.

A horrendous story is told in Britain where toy cigarettes were sold which emit a cloud of brown smoke when blown. Crown Brand Puff Cigarettes contained asbestos which made up the smoke.⁹⁰.

⁸⁹. Levine, R. J. ed. pp.65.

⁹⁰. B.S.S.R.S., op.cit. pp.195.

And finally, one of the favourite sites for school tours in the Scarborough area was through Johns-Manville. Union pressure on the Premier from Bob Stewart of the Energy and Chemical Workers finally stopped that insanity.

We probably haven't covered even a fraction of the potential sources for environmental contamination, but every exposure is potentially hazardous and action must be taken to eliminate or reduce these sources.

Asbestos is ubiquitous. Obvious sources of contamination are somewhat easier to deal with. Emissions can and must be controlled and the indiscriminate dumping of asbestos wastes are intolerable. The Ontario Ministry of Environment has the responsibility, and the power to act, what they need is the will. Ambient air criteria (ie. 0.04F/cc) is not unforceable, however, point of impingement (stack) standards (of 5 micrograms/m³) are, through criminal prosecutions.⁹¹ A compulsory safe substitution plan for asbestos uses would relieve the problem of mine, mill and manufacturing emissions, however demolition, renovation and removal problems remain.

⁹¹. Franson, K. T.; Lucas, A. R. Canadian Law and the Control of Exposure to Hazards, Science Council of Canada Background. Study #39. October 1977. pp.28

There are no provincial procedures for safe dumping although the Ministry is working on them.

The federal governments' Environmental Contaminants Act is another act under which government action can be initiated to prohibit or limit a substance that constitutes a "significant danger to health in the environment". Environment Canada unfortunately sees this act as designed for a supplementary role to other environmental legislation.⁹².

The federal Hazardous Products Act has set standards for asbestos in clothing and toys, in fact, they prohibit the advertising, selling or importing of toys or clothing containing asbestos unless it is designed as protection from fire or heat or the asbestos will not become separated. No asbestos should be in toys or clothing.

The Hazardous Products Act could also remove asbestos from electrical appliances, again if the will was there.

The Federal Food and Drug Act could prohibit the use of asbestos filters however, consumer pressure has been very effective.

There needs to be a coherent policy with ultimate responsibility placed in one Ministry in this province. Our experience in occupational health, when responsibility was shared among a number of Ministries is that any attempt at co-ordination does not work. Since this Commission

92. Ibid., pp.40.

addresses a provincial jurisdiction, and clearly the Ministry of Environment has overall responsibility for environmental contamination. However, past action over toxic wastes, the recent Cayuga dump experience and the denial of problems of asbestos in the water make us very skeptical about their commitment to a clean and healthy environment.

VI Measurement

We have a certain number of questions and doubts concerning the measurement of asbestos.

(1) We feel that the proposed standards are promulgated to suite the current sampling technology rather than to prevent damage to health. The use of the phase contrast optical microscope means that the lowest level that can be accurately measured is 0.1F/cc.

(2) The current sampling technology measures only fibres of five microns in length. This is a gross measurement of actual fibre concentration since the number of shorter thinner fibres are not counted and these are certainly considered dangerous. The proportion of fibres of more than 5 μ to the shorter fibres can vary from 1 to 50%.⁹³

For example Table I shows a typical size distribution measured by electron microscopy of fibres collected during the cutting of block insulation containing asbestos.

93. Dement et al, (1975) reported in NIOSH Revised Recommended Asbestos Standard, DHEW, Dec. 1976, pp.69

Percentage of Fibres Longer than 5 Microns
in Various Insulation Work Activities

Activity	Percentage of fibres 5μ
Cutting Calcium Silicate Block	3.5
Mixing Cement	1.2
Fabrication of Amosite Blankets	29
Removal of Pipe Covering	5.9
Indirect Exposure in Engine Room during Application of Insulation	0.4

"It can be seen that the fraction of asbestos fibres in a work environment evaluation can vary by tenfold when a single variety of asbestos is used, and by one hundredfold when different varieties are considered. In reality, our technology for the determination of occupational asbestos air concentrations uses a rubber yardstick."94.

The electron microscope can measure these shorter fibres but the hesitation over its use appears to be during actual sampling and its cost.

An electron microscope is certainly a large capital cost but Chatfield indicated that sample costs were \$70-80 compared to \$40-50 for phase contrast.⁽⁹⁵⁾ The use of electron microscopy would allow us to set an exposure level significantly lower and more stringent and accurate than allowed with phase contrast.

94. Nicholson, W.J. op.cit. pp.8-9

95. Chatfield, E.J. Answers at the second meeting of the Royal Commission on Asbestos, Dec.1980

Given a plan for compulsory substitution, hopefully the need for massive monitoring of asbestos will be unnecessary.

Electron microscopy is absolutely essential for accurately measuring environmental contamination.

VII Institutional and Policy Issues

Laws and Regulations

The first regulations to control asbestos dust in industry went into effect in England in 1931 following Dr. Merewether's survey that found one third of all workers with 5 years' exposure had asbestosis.

The regulations only applied to textile plants and required ventilation. No so-called "safe" levels were assigned.

The first threshold limit value (TLV) recommended for asbestos was in the U.S. in 1938 by W.C. Dressen et al of the Public Health Service. Following a survey of North Carolina textile mills they recommended a tentative standard of 5 million particles per cubic foot (5 mppcf). The proposal was tentative because only 13% of the workforce had 10 years or more of exposure and only 3 employees had more than 20 years. Unfortunately just before the survey was to be done, 150 employees with suspected asbestosis were fired, hence the distorted sample.

Dressen also recognized the inadequacy of using the impinger to measure asbestos and questionable percentage calculations of asbestos to cotton dust, and yet the 5 mppcf remained as the guideline in the U.S. for over 30 years.⁹⁶.

In 1946, the American Conference of Governmental Industrial Hygienists (ACGIH) adopted the 5 mppcf as a Maximum Allowable

96. Nicholson, op.cit, pp 2-3

Concentration (MAC) and in 1948 adopted it as the TLV for asbestos:

"Threshold limit values refer to airborne concentrations of substances and represent conditions under which it is believed that nearly all workers may be repeatedly exposed day after day without adverse effect."⁹⁷

The same level was adopted in Britain in 1960.

A good deal of criticism surrounding this level and its measurement technique arose in the middle 1960s.

In 1968, the British Occupational Hygiene Society (BOHS) reviewed a study on the Turner and Newall's asbestos textile factory at Rochdale carried out by the company physician. Of the 290 workers, only 8 had x-ray evidence of asbestosis and 16 had rales (dry crackling sound with lungs). Many of the workers had less than twenty years and no attention was paid to cancer, when a 1955 study on the same population had shown 10 times the lung cancer expected.⁹⁸

Based on a determination of fibre concentration, the BOHS estimated a risk of 1 in 100 for 2F/cc for 50 years for developing asbestosis.

They made it quite clear that the standard related to asbestosis and "cautioned that since a quantitative relationship between asbestos and cancer risk was not known, it was not possible

97. ACGIH "Threshold Limit Values for Chemical Substances and Physical Agents in the Workroom Environment." pp.2

98. Doll, Sir Richard, "Mortality from Lung Cancer in Asbestos Workers" Br. J. Ind. Med. 12:81, 1955

at that time to specify an air concentration which was known to be free of that risk in this respect."⁹⁹.

The 2F/cc standard was adopted in Britain in 1969 and has remained until the recent 1979 recommendations flowing from the final Report of the British Advisory Committee on Asbestos calling for a ban, in law, of blue asbestos, 1F/cc for chrysotile and 0.5F/cc for amosite and that all exposures should be as small as "reasonably practicable."

In all cases employers and users should be obliged to "consider the substitution of asbestos materials so far as it is reasonably practicable to do so."

In the U.S. in 1968 the ACGIH, TLV's became legally enforceable in those industries to which the Walsh-Healy Act applied. In 1969 the ACGIH proposed a 12F/cc TLV using the membrane filter or a 2 mppcf using the impinger.

In 1970 they proposed reducing the TLV to 5F/cc and eliminated the impinger technique. This TLV was finally adopted by the ACGIH in 1973, and has remained until 1979 when they proposed changes to 2F/cc for chrysotile, 0.5F/cc for amosite and 0.2F/cc for crocidolite.

In 1972 the National Institute of Occupational Safety and Health recommended lowering the time-weighted average (TWA) to 2F/cc. OSHA promulgated a standard of 5F/cc over 8 hours with a ceiling of 10F/cc until July 1, 1976 when the standard became 2F/cc.

⁹⁹. Reported in Nicholson, op.cit. pp.5

Again these standards were promulgated "to prevent asbestosis and with the open recognition that it would not 'prevent' asbestos induced neoplasms."¹⁰⁰

On October 9, 1975 the Federal Register proposed a standard of 0.5F/cc for an 8 hour TWA with a ceiling of 5F/cc for a period not exceeding 15 minutes. Following a review by NIOSH of the current knowledge base a recommendation for 0.1F/cc was passed on to OSHA. This recommendation came under great attack by industry.

The most recent recommendations from the NIOSH/OSHA Committee state that a standard should be promulgated which is designed to eliminate non-essential asbestos exposures by requiring the substitution of less hazardous and suitable alternatives where they exist.

Where exposures cannot be eliminated they must be controlled by engineering and work practices, not respirators, to as low as is possible (0.1F/cc). They reiterate that the 0.1F/cc does not mean that all cancer will be prevented.

In Ontario, we followed the ACGIH TLV's until 1972 when they lowered it to 2F/cc based on (1) the U.K. standard, (2) the NIOSH recommendation, (3) and because relative toxicities of fibres were unknown the level for crocidolite was to be 0.2F/cc. The ceiling value was placed at 10F/cc and 2F/cc for crocidolite.

100. NIOSH, Revised Recommended Asbestos Standard, DHEW, Dec. 1976, pp.1

In 1976, the Occupational Health Branch recommended amosite be included with crocidolite as amphibole fibres and the TWAs should be

2F/cc for chrysotile

0.2F/cc for amphiboles

and the MAC should be

10F/cc for chrysotile

2F/cc for amphiboles

On July 22, 1978 the Ministry of Labour proposed their "new" asbestos standard of

2F/cc for chrysotile

0.2F/cc for amosite and crocidolite

ceiling exposure limit

10F/cc for chrysotile

2F/cc for amosite and crocidolite

Despite all of the new evidence, we got the same old proposals. These were totally rejected by the OFL in their response to the standards.

Even the Ministry of Labour rejected their own guidelines.

"Existing guidelines for controlling exposure to asbestos in the occupational setting have been developed to control the development of asbestosis, rather than cancer. Occupational limits for asbestos in the Province and all other jurisdictions with similar control strategies have been based upon epidemiological studies relating solely to this form of lung fibrosis. Most environmental limits have

based upon extrapolation from this data in an attempt to control environmental pollution." 101.

In August of 1980, they came out with the "definitive" standard proposal.

The TWA over a 40 hour work week is to be

1F/cc for chrysotile or other asbestos
(first suggested by Gyan Rajhans of the
Ministry of Labour in 1974)

0.5F/cc for amosite (higher)

0.2F/cc for crocidolite

measuring fibres by phase contrast microscopy ∴ fibres of more than 5 microns in length.

The ceiling limit is to be

5F/cc for chrysotile or other asbestos

2F/cc for amosite and crocidolite

Both proposals contained other details such as medical monitoring, proper respiratory protection, measurement etc.

A detailed criticism of Ontario's proposed standard is contained in the OFL submission to the Ministry of Labour. (attached). Needless to say, we reject the levels proposed and a number of our recommendations to this Commission are also found in our letter to Anne Robinson.

The federal government uses a 2F/cc guideline for those workers covered under the Canada Labour Code and for those in the federal public service.

101. OHSD, "Asbestos in Public Buildings", Ministry of Labour, March 26, 1980. pp.1.

Saskatchewan has followed a different approach that is worth investigating. They refuse to play the "numbers game."

In 1975 they banned blue asbestos and required substitution or engineering controls to reduce the levels to "the lowest feasible level."

Bruce Doern in his presentation to this Commission indicated that labour desires a TWA level set. We, in fact, reject the "numbers game" of TLVs, TWAs and STELs, since all of these numbers have little or nothing to do with chronic diseases or the elimination of risk. Our problem in the past, has been that the only power that we had to insist on action was to show that the levels of contamination in our workplaces exceeded the TWA. That does not mean that we endorse the concept, it means only that one has to be practical when dealing with companies and governments who lack the will to enforce even their lax guidelines.

A final comment must be made about the philosophical approach that our Ministry of Labour takes on workers' occupational health and safety. At the front of many pieces of legislation there is a statement of intent describing what the legislation is supposed to do. At the front of The Occupational Health and Safety Act, 1978 there is a blank page.

The only intent we can find is in Section 14 (2) (g) . describing duty which says, an employer shall "take every precaution reasonable in the circumstances for the protection of a worker." Not only does this limit liability but compare it to the intent of the OSH Act in the U.S. where the general duty clause states that the employer has a duty to

"furnish to each of his employees employment and a place of employment which is free from recognized hazards that are causing or are likely to cause death or serious harm to his employees."

And compare it to the definition of occupational health by the World Health Organization.

Unless we start guaranteeing basic human rights to a safe and hazard free workplace and a clean and healthy environment we will continue to have horror stories like asbestos.

Institutional Response to Hazardous Substances

The institutional response to hazardous substances in Ontario has been totally inadequate in both the occupational and environmental field.

Occupational Response

The Ministry of Labour has failed to respond adequately to the entire field of occupational health hazards. We have yet to have any standards for any toxic substances in this

province. The Ministry has proposed regulations for only six substances and noise, when there are at least 25,000 toxic substances including some 1500 carcinogens in our workplaces. In fact, the Ministry has just issued a notice that there are seven volumes of substances that make up the inventory that they consider are in use in industry.

In 1974, the issue of health hazards in the uranium mines in Elliot Lake became a major political debate following several years of protesting by the Steelworkers. Stephen Lewis, Leader of the N.D.P. in Ontario, Elie Martel, Floyd Laughren and Bud Germa, N.D.P., M.P.P.s from Sudbury led an attack on the Ministry of Natural Resources for failure to act on the increasing number of deaths and disease among Elliot Lake miners.

The government's response? More study, more research, more delay. They set up yet another Royal Commission to study the Health and Safety of Workers in Mines. It took two years to report and although a number of the recommendations were incorporated in current legislation in Ontario, we have the ironic and totally bizarre situation that the miners in Elliot Lake because of a conflict in jurisdiction, are not even ultimately protected by the very legislation that their human sacrifices caused to be created. We might also mention that there is currently yet another federal-provincial task force investigating the growing number of fatalities in mining operations in this province.

The fight over asbestos did not begin in 1980 in Ontario, it has been a fight with companies and governments over the last twenty years and in 1980 we get a Royal Commission.

Do we have to have disasters before we even get a full public hearing on the hazards that we are facing in the workplace.

The approach at a policy level is totally inadequate. The approach at the administrative level, we will deal with in the next section.

Environmental Response

Again the Ontario government's response has been inadequate. The Ministry of Environment's role seems to be to deny or minimize hazards, to monitor occasionally using totally inadequate guidelines for public health and safety, to deflect public pressure and finally to deny even the basic rights to an environmental assessment hearing to those concerned about toxic wastes dumped in their community.

How Have Employers, Government and Unions Dealt With the Asbestos Problem

Employers

Throughout this brief we have mentioned the role of employers in the asbestos problem, but we wish to deal in some more detail with their manipulation and suppression of information.

While workers have continued to accuse companies of suppressing information, actual proof of such actions have come to light through a voluminous set of industry documents dating back to 1933. The papers came to light in pre-trial examinations for discovery in the some 8,000 liability suits¹⁰². that have been launched in recent years in the U.S.

One of the main defence arguments that the companies used in these suits is that they did not know of the real dangers of asbestos until Selikoff's and others' studies in the early 1960s and later. This is part of the "bad old days" before the 1960s argument that has already been raised before this Commission.

In one of the first court cases dealing with the evidence, a South Carolina Circuit Court Judge James Price order a new hearing for the family of a diseased asbestos worker who was denied damages by a jury who had accepted the company's defence. Judge Price said in his ruling that "the correspondence very arguably shows...attempts at suppression which is highly probative" and it "further reflects a conscious effort by the industry in the 1930s to downplay, or arguably suppress, the dissemination of information to employees and the public for fear of the promotion of lawsuits."¹⁰³

102. Asbestos

103. Martin, L. "Asbestos Workers Not Told of Hazards, Papers Indicate", Globe and Mail, Nov.23, 1978. pp.18

Francis May, a senior executive of Johns-Manville defended his company's record by stating that Johns-Manville and Raybestos Manhattan had acted responsibly in the 1930s when they first learned of potential dangers of asbestos by commissioning a study.

Let us look further at this study and the correspondence around its release.

Dr. Anthony Lanza of the Metropolitan Life Insurance Company, assisted by the Department of Public Health at McGill University, carried out a survey completed in 1931 of workers with three or more years of employment "selected at random", including Canadians, in which they found that 53% of the workers had asbestosis and many others showed clinical effects.

The galleys were sent to J.M. and Raybestos Manhattan. Because compensation of silicosis was a major issue in New Jersey where J.M.s largest manufacturing plant was situation, George Hobart, a J.M. attorney wrote to Vandiver Brown, also a J.M. attorney stating,

"it would be very helpful to have an official report to show that there is a substantial difference between asbestosis and silicosis: and by the same token, it would be troublesome if an official report should appear from which the conclusion might be drawn that there is very little, if any difference, between the two diseases." 104.

104. Reported in Epstein op.cit. pp.91

Brown sent Dr. Lanza Hobart's letter stating,

"All we ask is that all of the favourable aspects of the survey be included and that none of the unfavourable be unintentionally pictured in darker tones than the circumstances justify."105

Brown also asked Lanza to include a sentence that had been in his original report.

"Clinically, from this study, it (asbestos) appeared to be a type (of disease) milder than silicosis."

Lanza deleted reference to the 53% of workers with asbestosis and the study was published in January, 1935.

In 1933, remember, Johns-Manville settled eleven asbestosis cases for \$30,000 and assurance of no further action.

Judge Price concluded that the 1933 settlements "constitute compelling proof of actual notice to certain manufacturers that asbestos-containing thermal insulation products indeed caused disease in insulation workers." 106.

In 1935, given the evidence of danger found by Merewether in England and the British Asbestos Regulations, the editor of the trade journal Asbestos wrote Sumner Simpson, President of Raybestos-Manhattan requesting permission to publish an article on the hazards of asbestos.

105. Reported in Castleman op.cit. pp.9

106. Epstein S. op.cit. pp.90

"Always you have requested that for certain obvious reasons we publish nothing and naturally your wishes have been respected. (However) discussion of it (the alleged asbestos hazard) in Asbestos along the right lines would serve to combat the rather undesirable publicity given to it in current newspapers. 107.

Simpson wrote to Brown, stating that Asbestos had been "very decent about not reprinting the British articles." Brown replied,

"I quite agree with you that our interests are best served by having asbestosis receive the minimum of publicity." 108.

and if any article be published it should reflect "American data rather than English." 109.

In 1936, Simpson wrote to the president of Thermoid Rubber Company suggesting that several manufacturers jointly fund asbestos experiments at the Saranac Laboratories and that the manufacturers

"(We) could determine from time to time after the findings are made, whether we wish any publication or not. My own idea is that it would be a good thing to distribute the information among the medical fraternity, providing it is of the right type and would not injure our companies." 110.

107. Epstein, pp.90

108. Castleman, pp.10

109. Epstein, pp.91

110. Castleman, pp.11

In a letter to Saranac Laboratories, Brown stated,

"It is our further understanding that the results obtained will be considered the property of those who are advancing the required funds, who will determine whether, to what extent and in what manner they shall be made public. In the event it is deemed desirable that the result be made public, the manuscript of your study will be submitted to us for approval prior to publication." 111.

But what was happening in Canada. In 1949, Dr. Kenneth Smith, the Canadian Johns-Manville medical director, reported on their Asbestos, Quebec operation and warned against telling workers of their medical conditions.

"It must be remembered that although these men have the x-ray evidence of asbestosis, they are working today and definitely are not disabled from asbestosis. They have not been told of this diagnosis, for it is felt that as long as the man feels well, is happy at home and at work, and his physical condition remains good, nothing should be said. When he becomes disabled and sick, then the diagnosis should be made and the claim submitted by the Company. The fibrosis of this disease is irreversible and permanent so that eventually compensation will be paid to each of these men. But as long as the man is not disabled, it is felt that he should not be told of his condition so that he can live and work in peace and the Company can benefit by his many years of experience. Should the man be told of his condition today there is a very definite possibility that he would become mentally and physically ill, simply through the knowledge that he has asbestosis." 112.

This policy was referred to as a "hush hush policy" by Wilbur Ruff, a former plant manager on Jan. 11, 1978 and persisted until the 1960s.

111. Epstein, pp.92

112. Epstein, pp.93

Dr. Smith, also indicated that he had discussed the potential hazards with J-Ms executives and reported their reaction:

"We know that we are producing disease in the employees who manufacture these products and there is no question in my (our) mind that disease is being produced in non-JM employees who may use certain of these products." 113.

Even more disturbing was Smith's testimony in 1977, in response as to whether he had ever advised Johns-Manville officials to place labels on asbestos insulation products:

"The reasons why the caution labels were not implemented immediately, it was a business decision as far as I could understand. Here was a recommendation, the corporation is in business to make, to provide jobs for people and make money for stockholders and they had to take into consideration the effects of everything they did, and if the application of a caution label identifying a product as hazardous would cut out sales, there would be serious financial implications. And the powers that be had to make some effort to judge the necessity of the label vs. the consequences of placing the label on the product. 114.

Labels were finally placed on bags of asbestos in 1964 but not on manufactured products until 1968.

In November 1950, the Quebec Asbestos Mining Association funded Saranac had to do animal inhalation and epidemiological studies concerning lung cancer.

113. *Globe and Mail*, Nov. 23, 1978. pp.18

114. Epstein, pp.94

No animal studies were reported except for an interim confidential report in 1952, where Dr. Vorwald reported an excess of pulmonary cancer in mice exposed to asbestos dust.

The epidemiological study by Dr. Cartier in Quebec which showed 10 out of 53 miners autopsied had lung cancer, was never published.

A later paper, this time published in 1955, found 6 of 40 asbestosics had lung cancer and 7 others. He did not publish the number non-asbestotics autopsied.

He described the role of "asbestotic fibrosis as questionable in the causation of cancer." In fact the percentage of lung cancer among non-asbestotics was in the order of 30%.¹¹⁵.

Although Dr. Cartier attempted to obscure his findings, it was clear that the QAMA understood the implications, because QAMA Ivan Sabourin was reported in September, 1955 minutes of the Asbestos Textile Institute:

"Mr. Sabourin stated that the present major health problems of the industry pertained to the relationship of heart difficulties and cancer to asbestos exposure."¹¹⁶.

And yet they did not know of the true dangers until the 1960s.

We have covered only a few of the highlights of the evidence referred to by Judge Price. The QAMA went on to fund more research with Corbett MacDonald of McGill who found little evidence of a problem since he conveniently overlooked latency time, a concept so crucial in health studies on asbestos.

¹¹⁵. Castleman, pp.18

¹¹⁶. Castleman, pp.18

The Metro Labour Council brief deals with the entire aspect of company funded research. What we in the labour movement are attempting to emphasize, is that the role of companies has not been a passive one.

On every occasion they have manipulated, suppressed, and denied information implicating asbestos and disease. They spend millions on research, public relations personnel, economists, physicians, lawyers, and government lobbyists to fight every attempt to lower standards or to eliminate asbestos. Between 1947 and 1976 when the insurance companies refused to issue more insurance, Johns-Manville alone purchased \$364 million on product liability insurance.¹¹⁷.

In the U.S. they are now paying millions in suits and product liability settlements and their thrust is now to pass compensation legislation which would bar such suits against the manufacturers and government.

The companies have shown that they cannot be trusted in presenting the true facts about asbestos. They have claimed it was the "bad old days," it is the "blue" asbestos, it is "smoking", it is "trace metal contamination", it is from the polyethylene bags" the asbestos is packaged in, it is a "conspiracy by the chemical industry" to corner their market with substitutes, it is anything but their fault, and furthermore we'll all burn to death if we remove asbestos.

¹¹⁷. Castleman, pp.24

Government

The government's role, on the other hand, appeared to be passive acceptance of anything and everything that the asbestos companies wanted to do. The only aggression that was seen was to deny the problems and to spew forth company arguments in their defense.

Despite W.C.B. evidence that between 1970 and 1975 thirty-five claims had been accepted from Johns-Manville alone, and Ministry of Health reports on conditions that were in excess of the 2F/cc guideline at Johns-Manville, the Hon. Frank Miller, then Minister of Health, stated that there was "no current health problem" at the plant in West Hill.¹¹⁸. He also suggested that the "conditions within the plant in the main are meeting our environmental standards" and that any problems were a result of conditions that existed as long as twenty years ago.

The next company line came from Dr. Joseph Cowle, then chief of the Industrial Chest Disease Branch of the Ministry of Health, "one would have to be blind not to admit that it's blue asbestos that is the villain".¹¹⁹.

¹¹⁸. "No Health Problems in Plant Minister States", *Globe and Mail*, February 6, 1975.

¹¹⁹. Lewis Attacks Government for "Protecting Company", *Toronto Star*, February 7, 1975.

Another problem for Johns-Manville workers was that the 2F/cc level is set for a 40 hour work week. Their regular work week was 48 hours and often 56. The Ministry of Health and Labour gave no consideration for this excess exposure.

The Energy and Chemical Workers' brief will address these problems more thoroughly.

At Matachewan the story of denial, minimization and suppression among Ministry officials was told yet again.

After Matachewan opened in September 1975 Gyan Rajhans inspected the operation on September 22 and concluded:

"The coveralls and faces of several workers were found to be totally covered with asbestos fibres. Many of them were found to be working in a dusty atmosphere without any respiratory protection. Each floor of the mill had more than one piece of equipment leaking badly. Asbestos fibres were accumulated almost everywhere. In conclusion, I must admit that I have not seen any asbestos manufacturing and using industry having such a poor working condition from a health point of view as the above mentioned company at present has."

The report was sent to the company but no worker saw it until February 1976 when Stephen Lewis, Leader of the Opposition, received the report anonymously and sent it to the Steelworkers.

No follow-up was made on this report until it hit the media.

The Minister of Natural Resources immediately rushed to the company's defense:

"Far from being the worst yet as alleged by Stephen Lewis, the conditions at the United Asbestos Inc. plant at Matachewan are the best yet." 120.

Mr. Bernier also suggested that any dust problems were a result of the start up and once the plant was in full production everything would be fine.

Finally, five months after Rajhans wrote that devastating indictment of conditions at Matachewan, Occupational Health Engineers went back to check out the mine. Management knew of the visit in advance, closed the mill over the weekend and brought in a clean up crew. The inspectors arrived Monday morning after the clean up. After the inspection, Frank Miller the Minister of Health announced that things were much improved and denied that conditions were ever as bad as Stephen described.

Unfortunately for Mr. Miller, a report by the Ministry of Environment came out which showed that asbestos levels at the work camp six miles from the plant were twice as high as the acceptable level. If levels are that high six miles away it only confirmed the worst fears. Mr. Miller's response was:

"It looks like I'm in trouble on this one." 121.

120. Globe and Mail, February 27, 1976.

121. "Asbestos Above Limits 6 Miles from Plant"
Toronto Star, March 3, 1976.

Asbestos readings take several weeks to develop so nothing was heard until March 25, 1976. Leo Bernier then announced that he was "concerned" because the asbestos levels were three times the acceptable 2F/cc level. He had gone to Matachewan, himself, on Tuesday March 23 to see what conditions were really like. By coincidence March 23 was a Tuesday and Tuesdays were the normal shut down days.

On March 31, 1976 Leo Bernier released the actual readings and instead of being three times the acceptable level as Bernier had stated there were readings as high as six times the 2F/cc acceptable level. The government made statements about how tough they were going to be to get the conditions cleaned up but they gave the company until July to do it.

On April 13, 1976 having received another set of test results indicating readings as high as 43F/cc, the government closed down Matachewan to clean up.

Matachewan reopened several weeks later and although conditions had improved somewhat it never went into full production before it closed.

But that was history surely things have changed today. The Steelworkers at Certified Brakes or Royal Industries don't think so. After continuous fights over asbestos conditions, a Ministry of Labour inspector offered this sage advice:

"If you work with fish, you smell like fish,
if you work with asbestos you smell like
asbestos."

And for the former workers at Bendix, what does the Ministry of Labour do, they allow Bendix Corporation to hire researchers to do long-term studies on the workers instead of taking the responsibility that is theirs.

Of equal concern, however, is the Ministry of Labour's reliance on the "internal responsibility system" to ensure "ethical compliance" by both labour and management. The Ministry has indicated that employers and employees have the primary responsibility for occupational health and safety and the inspectorate is to act as a facilitator to encourage the development of this internal responsibility system.

Labour in Ontario has long demanded the right to participate in decision-making over health and safety through joint committees. These demands were in conjunction with real power being given to the committees, i.e. to close down unsafe operations and a requirement that management follow the decisions of the committee.

Bill 70, not only deprived many workers of mandatory committees, but limited the role of the committees as purely advisory, with management therefore, maintaining veto power.

While labour has criticized this inadequacy, the assumption was always that the Ministry would at least enforce the law. What we are finding, through experience, is that the Ministry is reneging on their responsibilities under section 28(4).

A tragic consequence of this lack of enforcement occurred on September 10, 1980, at Algoma Steel Corporation in Sault Ste. Marie when a worker was crushed to death because of improper lock out procedure. The United Steel-workers Union had complained to the Ministry of this unsafe practice in the spring but the Labour Ministry stated that although they agreed with the union's stand that the lock out during maintenance was a requirement in the regulations, they did not act because disagreements about safety practices at Algoma were being worked out "through the internal responsibility program between the union and management".

The Ministry seems to be carrying this approach right into their proposed regulations, where the employer must assess the situation and present a control program to the joint committee for approval.

We are concerned that while the regulations emphasize engineering controls, that pressure will be placed upon workers to accept personal protective equipment as a cheaper alternative or lose their jobs. The Ministry will

then accept this "internal responsibility system's decision" and no protection is actually offered in the long run.

We are very cynical about the Ministry's intentions because we have had years of experience where it is quite clear that the interests of worker's health and safety are secondary to the interests of promoting investment and industrial growth in this province. Times of economic restraint and downturn do not encourage governments to regulate business practices, so we see little change in the immediate future.

Unions

Workers' role in the asbestos problem has been a tragic one. We essentially provided the test animals for the massive human experiments that this society and the entire world has allowed to happen.

We were continually reassured that everything was fine that our employers and the government were protecting us at work.

By the 1950's too many of our fellow workers were dying to remain reassured. The Insulation Workers participated fully with Dr. Selikoff in his massive studies to prove essentially what the union already knew.

In the mid 1960's the workers at Johns-Manville also noticed that their colleagues were sick or dying and asked Selikoff to come to Toronto. Selikoff reviewed the situation and estimated that between twenty and thirty workers would die in the future. He was dismissed as "an alarmist" by company and government alike. Unfortunately, he grossly underestimated the numbers. By W.C.B. figures alone, which also underestimate the true figures, we have thirty-nine deaths with many many years of mortality ahead.

Health and Safety were issues in strikes and walkouts at Johns-Manville, Matachewan, Raybestos-Manhattan, Bendix and Royal Industries over the last fifteen years.

The Oil, Chemical and Atomic Workers have produced an excellent slide tape show on the hazards of asbestos and a poster. Fact sheets on asbestos have been developed by unions and the Metro Labour Council, and references to new research and issues appear regularly in the Ontario Federation's newsletter "At the Source" and before that in Ontario Labour.

As well, the Ontario Federation of Labour has developed an entire training program with a manual and audio-visual materials to help workers to fully understand the issues of occupational health, to participate effectively on joint committees and to use the rights provided by law

under the Occupational Health and Safety Act, 1978.

Workers' role in the "asbestos problem" may be what the Commission refers to as "the individual tragic human background" to this inquiry, but we reject the background role offered. It is our brothers and sisters who have provided the scientific evidence on which this Commission must base its recommendations. The human tragedy must not be relegated to the background while the debate moves into the scientific realm. The decision is one about humanity not science. It is a decision about how this society values human health and human life.

VIII Conclusion and Policy Recommendations

It is estimated that we are only half way through extracting all of the asbestos that is left in the earth⁽¹²²⁾ and it is time that we made a decision on the future use of this mineral.

Almost all of the major producers of asbestos fibres and products in Canada are foreign-owned and they have already started to move their operations to the third world where environmental standards are overlooked in the haste to industrialize. An American firm Amatek closed down their operation in Pennsylvania after they opened a plant in the Mexican border town of Agua Priesta in 1969.

With unemployment at 22%, a basic wage of a little more than \$5.50 per day and no environmental standards, the company can vastly increase their profits with great encouragement from the Mexican government.

The deplorable conditions in the Agua Priesta plant were described in an article in the Arizona Daily Star on March 27, 1977, translated into Spanish and reprinted in a local Agua Priesta newspaper.

The factory workers called for an investigation and some "cosmetic" changes were made, however, threats of loss of jobs soon quieted the protestors.^{123.}

122. B.S.S.R.S. op.cit. pp.240

123. B.S.S.R.S. op.cit. pp.246

Mexico, now, has twenty-three asbestos plants. Taiwan and South Korea have become a great source of asbestos textiles and plants are opening in Madras, India, Venezuela and Brazil.¹²⁴.

In Canada, Judge Rene Beaudry has stated that the Quebec government has a report that indicates that since a good deal of the market in the Western World will collapse in the next few years as more and more countries move to eliminate asbestos use, the government agency responsible for the Asbestos Corporation's holdings once they are taken over, will have to actively market their product in the Third World.

The asbestos industry claims that it is providing almost a social service to the third world by relocating their hazardous plants. Mr. Van de Best, managing director of one of the world's largest asbestos cement manufacturers, the Belgian based, Eternit, said to the British Advisory Committee hearings in June, 1977:

"I would like to tell you that the Company to which I belong, being sure that the best way to help developing countries is to erect factories in their countries, with their help and their cooperation, has erected asbestos cement factories nearly all over the world - in South America, in Asia, and in Africa - because in fact asbestos cement is the normal follower of a cement factory; to help them solve their housing problem in those developing countries."¹²⁵.

¹²⁴. Castleman, B. "The Export of Hazardous Factories to Developing Nations", March, 1978

¹²⁵. Reported in B.S.S.R.S. op.cit. pp.242

The threat of relocation is often used against our workers in Ontario but we in the trade union movement will no longer give in to this blackmail. We intend to broaden our international ties with trade unionists in the third world to prevent the asbestos tragedy from being repeated again and again.

Choices?

Ultimately, the choice comes down to whether you ban or whether you merely control asbestos which is really a choice as to whether you eliminate or merely reduce risk.

Medical surveillance and just compensation are essential for those who have been, are being and will be exposed in the future but they do nothing to prevent disease and death and certainly do nothing to ease the physical and emotional pain of disease and death for the victims and their families.

Early diagnosis of asbestos diseases have little impact on the mortality of victims of lung cancer and mesothelioma, and because asbestosis is a progressive disease removal from asbestos exposure does not ensure that a victim will not become totally disabled and die.

In the case of lung cancer nineteen out of twenty don't live five years from diagnosis and the hope for a cure is made more difficult with asbestos induced lung cancer:

- .1. Lung cancer often develops with asbestosis which means that the lungs are already weakened so that surgery and other treatments are often impossible (this is true for other cancers as well).
2. Asbestos induces small cell undifferentiated cancer which is one with the least hope of treatment. 126.

Sputum cytology screening has been initiated to identify cancer at a very early stage, however, there is not too much evidence so far that it alters mortality. Victims may live longer from first diagnosis since sputum cytology will identify cancer long before clinical symptoms appear from normal x-ray diagnosis. If you define cure as living five years from diagnosis, then the figures look promising but ultimately the outcome is usually tragic.

Mortality from mesothelioma is ensured and "There is no convincing evidence that any form of treatment prolong life." The average time of death from first diagnosis was six months. 127.

Treatment for other forms of cancer may be somewhat more encouraging, however, our real hope for a cure for cancer lies in prevention and it is quite clear that the way to prevent these cancers is to eliminate asbestos exposures.

126. Morgan, and Seaton, Occupational Lung Diseases,
Saunders, 1975

127. Thorax, vol.33, 1978, pp.26

RECOMMENDATIONSAssumptions

- i) Workers have an inalienable right to a workplace free from hazards;
- ii) All types of asbestos cause all types of asbestos disease;
- iii) The dose-response relationship may be linear, although that is open for debate, but there is definitely no "safe" threshold;
- iv) Safe substitutes are available now for many uses of asbestos.

THEREFORE the Ontario Federation of Labour wishes to make the following recommendations to this Royal Commission.

1. All nonessential uses of asbestos will be phased out within one year. This applies to products that need to be repaired as well. All uses of asbestos will be phased out as soon as safe substitutes become available and within four years.
2. Essential uses of asbestos will be determined by an independant panel of academics, workers and the public since industry and government have been irresponsible in the past. Cost factors will not determine an essential use.
3. During the period of phase out, exposure to asbestos will be kept to the lowest detectable level by means of stringent engineering controls. Education, personal protective equipment and hygiene facilities must be provided as prescribed in Chapter IV.

4. All Products containing asbestos must carry a warning label indicating that the product contains asbestos and that asbestos can cause cancer.
5. Where asbestos is found in public buildings, it shall be removed and disposed according to prescribed procedures laid out in Chapter IV.
6. Renovations and demolition shall be carried out under the prescribed conditions laid out in Chapter IV.
7. Private householders will be encouraged to remove all asbestos found in their home.
8. A government agency should be set up to carry out this work to ensure that all procedures are followed, that records are kept on all employees and medical monitoring of those employees continue until their death.
9. A notice should be sent out to every physician practicing in Ontario, to inform them of the hazards of asbestos, and the appropriate long-term medical monitoring that should be carried out on any patient with asbestos exposure. All medical records will be made available to the patient or his or her authorized agent.
10. A notice should be placed in all newspapers in Ontario and in the major cities across Canada, on all radio stations and television stations, informing the public about the real hazards of asbestos and informing those workers with past occupational exposures about the government's surveillance programme.

11. All dumps and landfill sites shall be checked for asbestos and where it is found, a proper covering of earth shall be placed over the site to prevent airborne pollution. The sites shall be properly maintained to prevent the asbestos from being released.
12. The Government shall demand that all substances entering the workplace shall be properly tested and found to be non-toxic by an independant testing agency before they are allowed to be used. All testing will be paid for by the manufacturer and the user.
13. A carcinogens policy shall be developed immediately which requires that any substance causing cancer in test animals shall be treated as a potential carcinogen.

The asbestos tragedy is merely a symptom of a society that places profits before people. We in the Trade Union Movement reject that priority.

OUR HEALTH IS NOT FOR SALE!



APPENDIX I

THE MOUNT SINAI MEDICAL CENTER

ONE GUSTAVE L. LEVY PLACE • NEW YORK, N.Y. 10029



(W.M.C. 10/24/77)
Mount Sinai School of Medicine • The Mount Sinai Hospital

(W.M.C. 10/24/77)
Environmental Sciences Laboratory
Cummings Basic Sciences Building
10 East 102 Street
New York, New York 10029
(212) 650-6173
October 24, 1977

William J. McCracken, M.D., F.R.C.S.(C)
The Workmen's Compensation Board
2 Bloor Street East
Toronto, Ontario M4W 3C3 Canada

Dear Dr. McCracken:

We have recently completed an analysis of experiences of asbestos insulation workers to January 1, 1977. I am pleased to send you our working data of these studies.

First, with regard to laryngeal cancer, among 17,800 insulation workers in the United States and Canada observed prospectively from January 1, 1967 to January 1, 1977, with 166,855 man years of observation, there was a clear statistically significant increase in observed deaths of laryngeal cancer, compared to those expected. The increase, with 11 observed against 4.84 anticipated, was statistically significant at the 1% level. Thus, there is useful evidence that asbestos workers suffer an increased risk of laryngeal cancer. However, our data do not provide information concerning what proportion of laryngeal cancers might be associated with asbestos exposure; your case control study will provide better information in this regard.

I am also enclosing information concerning risk of death of lung cancer, mesothelioma and gastrointestinal cancer among these workers. The increased risk is statistically significant in each instance. However, the importance of duration from onset is again clear.

The increase in cancer of the esophagus is statistically significant to the .001 level, cancer of the colon rectum to the .005 level, the pharynx to the .001 level and the kidney also to the .001 level. However, cancer of the stomach becomes statistically significant only twenty or more years from onset of exposure. This is consistent with our previous findings, reviewed with Dr. Miller.

I hope that these data will be of assistance to you.

Sincerely yours,

I. J. Selikoff
Irving J. Selikoff, M.D.
Professor

Deaths among 17,800 asbestos insulation workers
 in the United States and Canada
 January 1, 1967 - January 1, 1977

Number of men	17,800
Man-years of observation	166,855

	<u>Expected</u>	<u>Observed</u>	<u>Ratio</u>
<u>Total deaths, all causes</u>	1,660.96	2,270	1.37
<u>Total cancer, all sites</u>	319.90	994	3.11
Lung cancer	105.97	485	4.58
Pleural mesothelioma	**	66	—
Peritoneal mesothelioma	**	109	—
Cancer of esophagus	7.01	18	2.57
Cancer of stomach	14.23	22	1.55
Cancer of colon - rectum	37.86	59	1.56
All other cancer	154.83	235	1.52
<u>Asbestosis</u>	**	162	—
<u>All other causes</u>	1,351.06	1,114	0.82

* Expected deaths are based upon white male age specific mortality data of the U.S. National Center for Health Statistics for 1967-1975 and extrapolation to 1976.

** These are rare causes of death in the general population.

'Deaths among 17,800 asbestos insulation workers
in the United States and Canada
January 1, 1967 - January 1, 1977: Analysis by
duration from onset of employment'

	Before 20 years from onset			20 or more years from onset		
	Expected *	Observed	Ratio	Expected	Observed	Ratio
<u>Total deaths, all causes</u>	283,93	324	1.14	1,377.01	1,946	1.41
<u>Cancer, all sites</u>	42.65	83	1.95	277.25	911	3.29
Lung cancer	12.03	36	2.99	93.94	449	4.78
Pleural mesothelioma	**	2	--	**	64	--
Peritoneal mesothelioma	**	3	--	**	106	--
Cancer of esophagus	0.66	1	--	6.35	17	2.68
Cancer of stomach	1.56	1	--	12.67	21	1.66
Cancer of colon-rectum	4.07	4	--	33.79	55	1.63
<u>Asbestosis</u>	**	8	--	--	154	--

* Expected deaths are based upon white male age specific mortality data of the U.S. National Center for Health Statistics for 1967-1975 and extrapolation to 1976.

** These are rare causes of death in the general population.

Deaths among 17,800 asbestos insulation workers
 in the United States and Canada
 January 1, 1967 - January 1, 1977

Number of men	17,800
Man-years of observation	166,855

		<u>Deaths of less common neoplasms and chronic respiratory disease</u>		
	<u>Expected*</u>	<u>Observed</u>	<u>Ratio</u>	
<u>Total deaths, all causes</u>	1,660.96	2,270	1.37	
<u>Cancer, all sites</u>	319.90	994	3.11	
Larynx	4.84	11	2.27	
Pharynx, buccal cavity	8.58	21	2.45	
Kidney	8.08	20	2.48	
<u>Chronic respiratory disease**</u>	58.58	66	1.12	

* Expected deaths are based upon white male age specific mortality data of the U.S. National Center for Health Statistics for 1967-1975 and extrapolation to 1976.

** Other than asbestosis.

Deaths among 17,800 asbestos insulation workers in
 the United States and Canada, Jan. 1, 1967 - Jan. 1, 1977:
 Analysts by duration from onset of employment

Duration from onset (years)	Number of men	Person-years of observation	Lung cancer		Pleural mesothelioma	Peritoneal mesothelioma
			Expected*	Observed	No./1000 person years	No./1000 person years
< 10	5,552	26,393	0.69	0	0	0
10-14	9,063	29,003	2.77	7	2.53	0
15-19	9,948	34,069	8.57	29	3.38	0.06
20-24	8,887	31,269	17.03	59	3.46	0.19
25-29	6,596	20,657	21.04	104	4.94	0.73
30-34	3,547	11,598	18.48	112	6.06	0.86
35-39	2,019	5,401	11.47	66	5.75	2.96
40-44	1,108	3,160	8.12	39	4.80	1.27
45+	1,030	17.82	69	8.87	2.45	5.47

* Expected deaths are based upon white male age specific mortality data of the U.S. National Center for Health Statistics for 1967-1975 and extrapolation to 1976: Smoking habits not taken into account.

Deaths among 17,800 asbestos insulation workers in the United States and Canada, Jan. 1, 1967 - Jan. 1, 1977:
Analysis by duration from onset of employment

Years from onset of employment	Total deaths	Percent of all deaths			
		Lung cancer	Pleural	Peritoneal	Total
< 10	51	0	0	0	0
10-14	85	8.24	0	0	0
15-20	188	15.43	1.06	1.60	2.60
20-24	320	18.44	1.88	0.94	2.82
25-29	388	26.80	3.86	4.64	8.40
30-34	340	32.94	2.94	6.47	9.41
35-39	253	26.09	6.32	7.11	13.43
40-44	203	19.21	1.97	7.88	9.85
45+	<u>442</u>	<u>15.61</u>	<u>2.94</u>	<u>6.56</u>	<u>9.50</u>
<u>Total</u>	<u>2270</u>	<u>21.37</u>	<u>2.90</u>	<u>4.80</u>	<u>7.70</u>



APPENDIX II

Ministry
of
Labour

400 University Avenue
Toronto, Ontario
M7A 1T7

April 16, 1980

RESPONSE TO ORDER PAPER QUESTION 88, ORDER PAPER NUMBER 14

88. *Mr. Mackenzie*--Enquiry of the Ministry-- Would the Minister of Labour please indicate how many claims have been established with the Workmen's Compensation Board for asbestos-associated disabilities and/or deaths in Ontario since 1960. Will the Minister provide a separate total for each type of asbestos related disease and a separate total for each type of disease by Company. Will the Minister also provide the above information for rejected claims. *Tabled April 3rd, 1980.*

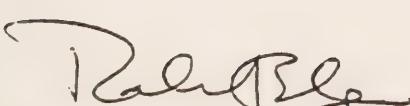
Answer: 1)	Asbestosis	216
	Lung Cancer	46
	Mesothelioma	35
	Gastrointestinal	
	Cancer	7
	Laryngeal Cancer	3

The above figures cannot be added to indicate the total number of claims as there are several asbestos claims which would also show lung cancer or mesothelioma.

- 2) See Appendix A

The total number of claims could well include cases noted in the answer to 1) in which the diagnosis is lung cancer.

- 3) The above information on rejected claims is not available.


Robert G. Elgie, M.D.
Minister of Labour

QUESTION 38

ALLOWED CLAIMS FOR ASBESTOSIS, SILICO-ASBESTOSIS AND MESOTHELIOMA

APPENDIX "A"

PART #2:

1960 - 1979

Employer	NUMBER OF CLAIMS		
	Asbestosis Only	Mesothelioma Only	Both
Canadian Johns Manville	104	5	7
Raybestos-Manhattan (Can.) Ltd.	116		
Holmes Insulation Ltd.	9	9	1
Applied Insulation Co. Ltd	9	8	
Atomic Energy of Canada Ltd.	4	4	
White & Greer Co. Ltd.	4	3	1
Department of Public Works	3	3	
Dewar Insulation Inc.	2	2	
Lakehead Insulation & Plastic Co.	2	2	
A.C. & S. Contracting	2	2	
Allas Asbestos Co. Ltd.	2	2	
Spruce Falls Power & Paper Co. Ltd.	2	2	
Imperial Oil Ltd.	2	0	2
Canadian Asbestos Co.	1	1	
Foster Wheeler Co. Ltd.	1	1	

QUESTION 38

ALLOWED CLAIMS FOR ASBESTOSIS, SILICO-ASBESTOSIS AND MESOTHELIOMA

APPENDIX "A"

PART #2

1960 - 1979

<u>Employer</u>	<u>NUMBER OF CLAIMS</u>		
	<u>No. of Claims</u>	<u>Asbestosis Only</u>	<u>Mesothelioma Only</u>
University of Toronto	1	0	1
Consolidated Plant Maintenance Co.	1	1	
Schreiber Brothers Ltd.	1	1	
Armstrong Contracting Co.	1	0	1
Toronto, Hamilton and Buffalo Railway Co.	1	1	
Black & McDonald	1	0	1
Federal Insulation Ltd.	1	1	
Bryant Insulation	1	0	1
Schaefer Townsend Ltd.	1	1	
Asbestos Covering Co. Ltd.	1	1	
Terminal Insulation Ltd.	1	1	
Master Insulation Co. Ltd.	1	1	
Preston Mines Ltd.	1	1	
Ontario Insulation (Oshawa) Ltd.	1	1	
Ontario Hydro	1	1	

QUESTION 88
PART #2

ALLOWED CLAIMS FOR ASBESTOSIS, SILICO-ASBESTOSIS AND MESOTHELIOMA
1960 - 1979

APPENDIX "A"

Employer	NUMBER OF CLAIMS		
	No. of Claims	Asbestosis Only	Mesothelioma Only
Kimberly Clark of Canada Ltd.	1	1	0
Commercial Industrial Insulation Ltd.	1	1	0
Cem-Al Spray Ltd.	1	1	0
Multiple Employers (Plumbing & Pipefitting)	1	0	1
Dominion Foundries & Steel Ltd.	1	1	0
Superior Insulation	1	1	0
Port Arthur Shipbuilding Co.	1	1	0
Abex Ltd.	1	1	0
Avro Aircraft	1	0	1
Cassid Catering Co.	1	0	1
E.B. Eddy Forest Products Ltd.	1	1	0
Cyanamid of Canada	1	1	0
Hamilton Porcelains Ltd.	1	1	0
Collingwood Shipyards Ltd.	1	1	1
Lewis Insulation Ltd.	1	1	0

QUESTION 38ALLOWED CLAIMS FOR ASBESTOSIS, SILICO-ASBESTOSIS AND MESOTHELIOMAAPPENDIX "A"PART #21960 - 1979

<u>Employer</u>	<u>NUMBER OF CLAIMS</u>		
	<u>No. of Claims</u>	<u>Asbestosis Only</u>	<u>Mesothelioma Only</u>
Hamilton Match Plate	1	1	1
Babcock & Wilcox Canada Ltd.	1	1	1
—Lakhead Psych. Hospital	1	1	1
Canadian Pittsburg Industries	1	1	1
Ford Motor of Canada Ltd.	1	1	1
— Board of Education for Borough of York	1	0	1
Rowles Industrial Insulation	1	1	1
Alpine Insulation Ltd.	1	1	1
Vands Insulation Ltd.	1	1	1
C.A.C. Insulation Ltd.	1	1	1
C.I.L.	1	1	1
Russell Bros.	1	0	1
Ontario Marble Co. Ltd.	1	1	1
— City of Ottawa	1	0	1
Esso Canada	1	0	1
Texaco Canada Inc.	1	0	1
— Government of Canada (Labour Division)	1	0	1

QUESTION 38ALLOWED CLAIMS FOR ASBESTOSIS, SILICO-ASBESTOSIS AND MESOTHELIOMA

APPENDIX "A"

PART #2

1960 - 1979

<u>Employer</u>	<u>NUMBER OF CLAIMS</u>		
	<u>No. of</u> <u>Claims</u>	<u>Asbestosis</u> <u>Only</u>	<u>Mesothelioma</u> <u>Only</u>
North York Board of Education	1	0	1
Vincent Cutler Ins.	1	1	
Board of Education Borough of Scarborough	1	0	1
 TOTAL	216	182	24
			10

APPENDIX III

Ontario Federation of Labour
Chartered by the Canadian Labour Congress

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15 Gervais Drive, Don Mills M3C 1Y8
Telephone: (416) 441-2731

Clifford G. Pilkey
President

Terry Meagher
Secretary-Treasurer

November 27, 1980.

Dr. Anne Robinson,
Assistant Deputy Minister,
Ministry of Labour,
Occupational Health & Safety Division,
400 University Avenue, 14th Floor,
Toronto, Ontario.
M5G 1S6.

Dear Dr. Robinson:

We welcome the opportunity to respond yet again to the Ministry's proposed regulations relating to the designation of:

Asbestos
Lead
Mercury
Noise
Isocyanates
Silica and
Vinyl Chloride.

It does concern us, however, that so much time has elapsed since your first proposals were set before the public more than two years ago. The fact that you have not proceeded with your intent to regulate coke oven emissions, as stated in June of this year, also makes us concerned about your intentions to follow the regulatory timetable laid out during the Labour Estimates last December and we remind you that there are thousands of other toxic chemicals awaiting your attention.

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1. Labour's concerns over the entire standard setting procedure have been expressed on numerous occasions in the past, nevertheless we feel it necessary to express once more our distrust and apprehension over the closed method in which standards are promulgated in this province. We have asked continuously for an open forum in which the standards can be debated, in order that the workers in Ontario will know who is making decisions and trade-offs over their health and safety and on what basis.

We say again, that all of our submissions are available to anyone and we only wish that all background papers, economic impact considerations and industries' original submissions were equally open to public scrutiny.

2. The intent of these regulations is still unclear. We insist that occupational health hazard standards should prevent any deterioration in health and well-being caused by working conditions for all workers at all times. Without a statement of intent from the Ministry, it is impossible to assess the appropriateness of the standard.

3. We feel that some mechanism must be included in these standards for the Ministry to review the current scientific knowledge on a regular basis and reduce the exposure levels accordingly, to ensure the health and well-being of Ontario

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workers. A standard set in the fall of 1980 may soon be outdated by the growth in scientific and medical information.

4. The designated substance standards must apply to every workplace where the substances are present and should not be dependent on a determination by the employer as to whether a worker is likely to inhale, ingest or absorb the substance.

5. Although it is the intention of the Ministry to produce a carcinogen's policy during 1980 according to the priorities list tabled during the Labour Estimates in December, 1979, and we await such a policy with great interest, we must reiterate our rejection of the concept that there can be a safe exposure level for carcinogens. The only acceptable exposure to a carcinogen must be zero exposure.

6. We are disappointed that the Ministry has continued to use the "time-weighted average exposure limits" over a 40-hour work week. We remind you that Dr. Bette Stephenson, then Minister of Labour, delivered a speech to the Canadian Manufacturers Association on May 12, 1977, in which she suggested that the Ministry was looking at a more progressive idea for standard than the traditional TLV/TWA concept.

"Ontario's exposure standards and guidelines must differ from existing standards, which they should replace...they should not be based, as existing .

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Threshold Limit Values are based, on exposures during a 40-hour week...The new standards and guidelines should be based on the cumulative exposure to chemical agents and physical substance over time." (p.4)

We feel that a TLV/TWA does not adequately protect the workers in Ontario. As we stated in our original submission to the Ministry on October 5, 1978, we are not aware of scientific validation for the assumption that constant low level exposure is the same as intermittent high level exposures. Furthermore, a TWA is unenforceable.

The criteria for measuring the TWA over a 40-hour work week, laid out in all of these proposals are based on taking so-called representative "grab samples."

Our experience with the legal enforcement of regulated standards in other jurisdictions is that any attempt at gaining compliance through the courts fails based on such an inaccurate assessment as "grab sampling." Accurate assessment of exposure can only be obtained by constant monitoring over a 40-hour week..

We are very concerned as well, with what appears to us as a basic lack of understanding of the "short-term exposure limit" in these proposals. The wording "control the exposure of a worker to ... so that such exposure does not exceed ... on

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more than four periods during a workday where the length of time is less than 15 minutes and each period of exposure is more than 60 minutes apart" indicates that the worker can receive an extremely high exposure and even the entire 40-hour exposure in these periods as long as it does not happen on more than four periods.

The TLV/STEL is supposed to represent maximum concentration to which most workers can safely be exposed for a period of up to 15 minutes. There should be no more than four such excursions per day and a period of at least 60 minutes should occur between excursions.

To avoid all of these problems we feel that standards should be set instead, as "hygiene limits", following ILO terminology, and treated as maximum allowable concentrations. Speed limits on our highways establish maximum allowable speeds, not average speeds. Similarly, standards for exposure to hazardous substances should be maximum allowable concentrations, not average exposures. A change in this direction enables effective enforcement and avoids the problem of calculating TWA's for workers with irregular working hours.

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7. While we are glad to see that the Ministry has not included the wholesale adoption of the American Conference on Governmental Industrial Hygienists Threshold Limit Values in these new proposals, we are concerned about the thousands of other toxic chemicals that will have no controls in the workplace. The adoption of whatever is the world's lowest standard would provide some degree of protection until the Ministry issues its own standards.

8. We congratulate the Ministry on its emphasis on engineering controls and proper work practices (sections 4(1) and 7(3)a) as opposed to personal protective equipment. However, we are concerned that the inspectors may overturn the good intentions by accepting the employers' excuse that the control technology is unavailable because it is unaffordable (section 11(1)a(i)).

One aspect of the entire control procedure that is essential is an on-going maintenance programme for the control equipment and the machinery or process that creates the hazard.

9. The joint health and safety committees must be totally involved in the assessment of the hazard and the determination of the control programme rather than merely providing input.

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However, we are extremely concerned about the role of committees in enforcement of the actual legislation and these regulations. The Ministry has on numerous occasions stated that they intend to rely on the "internal responsibility system" to ensure "ethical compliance" by both management and labour and their role will be one of "facilitator."

The Ministry has severely limited the role of these joint committees to a purely advisory one, leaving management with ultimate veto power and the Ministry does not act to intervene.

A tragic consequence of this lack of Ministry enforcement occurred on September 10, 1980, at Algoma Steel Corporation in Sault Ste. Marie when a worker was killed because of improper lock-out procedure. The United Steelworkers Union had complained to the Ministry of this unsafe practice in the spring but the Labour Ministry stated they did not act because disagreements about safety practices at Algoma were being worked out "through the internal responsibility programme between the union and management."

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In the case of these regulations, we are concerned that yet again the enforcement will be left to the "internal responsibility system" and management's veto on capital expenditures for control engineering will be accepted by the Ministry.

Workers in this province do want to participate and take responsibility for health and safety in the workplace, but there must be full participation in decision-making accompanied by management's obligation to follow the directions taken by the joint committee.

Since the Ministry has shown their opposition to such participation, then they must assume their full responsibility to enforce not only the language of these regulations but their spirit as well. Anything less jeopardizes the health and safety of Ontario workers.

10. There are no requirements in these standarus for signs in the workplace indicating a hazard or carcinogen present or for any labelling requirements. We are aware that the Ministry is discussing a general labelling policy, however, it is essential that warning signs be posted to notify a worker entering an area of the hazard present. Warning signs, albeit inadequate, were required in your original proposals.

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Labels must also be present on the containers of these substances and Material Safety Data Sheets must be available in the area of use for all workers to consult.

11. While there is a clear duty on the employer and supervisor under the Act, to provide information, instruction and supervision, there is no mention in these regulations about "written instructions as to the measures and procedures to be taken for protection of the worker" (Section 16(2)(b) Occupational Health And Safety Act 1978) which should be prescribed.

As part of a total control programme, the workers in the area must be fully informed of the health hazard involved in exposure to these substances and all procedures that are being taken to reduce or eliminate the exposures. Workers must be fully informed of the medical monitoring requirements in order that they fully understand the voluntary aspect of such tests.

12. We are still concerned about the intent of the medical monitoring requirements. Again, we wish to emphasize that medical monitoring must never be used as a substitute for workplace monitoring of hazardous substances, nor should there be a shift of emphasis from cleaning up the workplace to the worker and his or her medical condition.

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Who does the medical monitoring also tends to influence why it is done. The labour movement in Ontario has long been concerned about the role of the company physician in determining employees' fitness to work.

Our concern could be relieved by the establishment of independent occupational health clinics, where the joint committees have choice and veto power over the selection of physicians and the monitoring programme carried out by the approved physician. Such monitoring must still be at the expense of the employer, but it relieves the conflicts of interest that labour is concerned about in the role of the company physician.

We applaud the Ministry's inclusion of the voluntary aspect of such monitoring as it applies to asbestos, lead, mercury, isocyanates and vinyl chloride, but, we would ask why the worker's consent is not required in the audiometric testing. Also the requirement of a certificate of suitability for employment in a silica exposure occupation 5(2) negates the voluntary aspect of section 3(d) in the silica regulation.

We see that the voluntary nature of this monitoring must be emphasized to the workers and the employers and no worker can be penalized for refusing to submit to this health testing.

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While such protection is provided in section 24 of the Occupational Health and Safety Act, 1978, it is up to the Ministry to enforce the spirit of these regulations and the emphasis on engineering controls.

Any medical monitoring requirements where decisions for suitability for employment or removal of diseased workers are made, whether voluntary or not, must be accompanied by a programme of medical removal protection, which ensures full rate retention for the affected worker. Anything less, allows employers to use medical monitoring to discriminate against disabled workers and is considered by us to be a violation of workers' civil rights.

A medical removal protection programme should include voluntary job placement in alternative non-exposure employment within the diseased worker's physical capacity with full retention on pay and benefits.

13. Under the code of General Requirement For the Use of Respirators a number of comments are necessary.

The Ministry must remember that the Federation feels very strongly that respiratory equipment should only be used as a

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temporary means of control while engineering controls are being introduced, because respiratory equipment does not adequately protect workers against hazards for technological and physiological reasons.

Under Sections 7 & 10 the use of the word "should" indicates action is strongly advised but not legally required. In the case of a breathable gas, high purity is essential though the word "shall" must be used.

Respirators, such as self-contained breathing devices, must be inspected regularly because a worker's life literally depends on the proper function of the unit.

Section 12 requiring physically fit people only to use respirators ties in with the kind of respirators required depending on the concentration of the contaminant. Using Organic Lead fumes as an example, the Code of Respiratory Equipment requires the use of replaceable filter type air purifying fume respirators at less than or equal to 1.5 mg/m³ or at greater than 15 mg/m³ a positive pressure supplied air respirator. Keeping this in mind, a person with a lung disorder but otherwise physically healthy,

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exposed to 1.5 mg/m³ of lead would not be allowed to work in that environment. He would not be able to breathe with the respirator required under the regulation.

The regulation must force the employer to provide a positive pressure supplied air respirator to afford the individual employment or another job with no loss in earnings.

14. When the Occupational Health Hazard regulation was proposed in 1978, hygiene facilities were required which included double locker rooms, showers, clean work clothes, vaccuming facilities, lunchroom, and washing facilities. These are not now required in the 1980 proposals. Presumably they could be included in the control program requirement under 3 (a) "work practices", but we feel that it is essential to emphasize the need for hygiene facilities and to spell out the requirements.

15. If the Ministry of Labour intends to use a Code of Practice on Air Sampling, then they should follow recognized accurate industrial hygiene sampling

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practices. For example, placing a sampling pump in a worker's pocket is most definitely not good practice. Under section d(5) of the lead proposal concerning a constant flow pump, readjustment of the flow rate must be made periodically to compensate for battery levels.

Also no mention is made regarding regular filter changes to prevent clogging and thus an inaccurate sample.

ASBESTOS

16. As we stated in our first submission to the Ministry, asbestos is perhaps the best known human carcinogen. Therefore the hygiene limit must be zero.

Both NIOSH in the U.S. and the British Advisory Committee on Asbestos have concluded in the last year that there is no safe level of exposure to asbestos and that every effort must be made to reduce the exposures to as small "as is reasonably practicable" or the "lowest feasible level".

Both groups have emphasized the substitution of safe alternatives.

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We, therefore, recommend the lowering of the asbestos level to "the lowest detectable level" for all types of asbestos with a policy of gradual compulsory substitution of safe, tested alternatives. There is evidence from NIOSH that phase contrast microscopy can measure levels as low as 0.001 F/cc.

Special attention must be given to the demolition of buildings with asbestos insulation and for the removal of asbestos in buildings and the disposal of asbestos waste. Very stringent engineering controls, work practices, and personal protective equipment must be developed for these jobs.

The definition of "fibre" in this regulation ignores the fibres of less than 5 microns in length which are not seen by phase contrast microscopic methods. There are estimates that for every fibre of more than 5 microns in length there are 100 smaller fibres which are certainly dangerous and cannot be ignored in setting numerical standards.

We reject the differentiation made between fibre types and the adoption of the British Advisory Committees' recommendations without reference to the emphasis on substitution.

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Chrysotile, amosite, crocidolite and anthophyllite are all demonstrated human carcinogens. The laxer TWA for chrysotile asbestos was based on the grounds that it rarely causes mesothelioma. Julian Peto a prominent asbestos researcher at Oxford University rejects outright that assumption and certainly Irving Selikoff, the world's leading asbestos researcher, in a letter that was submitted in our original brief rejected such distinctions.

Even the British Advisory Committee saw that a level of 1 F/cc for chrysotile asbestos would mean an excess in deaths of between 0.02 and 1.25 over a lifetime of work. This risk is clearly not acceptable to those of us in the labour movement.

All asbestos types are carcinogens and therefore must be controlled to levels that are "the least detectable" with every attempt to substitute safer alternatives.

17. We emphasize the need for regulated hygiene facilities for asbestos workers in line with the general comments before.

contd.

18. We also wish to emphasize that the medical monitoring of asbestos workers proposed only identifies lung impairment, it is not preventative. It must be accompanied by a full medical removal protection programme and not the present inadequate WCB attempts at rehabilitation.

LEAD

19. We commend the government on the broader definition of lead, however, we emphasize the fact that lead arsenate and lead chromate must be considered carcinogens because of the arsenic and chromate component and therefore the exposure must be zero.

The comments that we made in our original submission remain and we have attached copies for your reference.

MERCURY

20. Again we refer you to our original submission (attached) for our comments.

NOISE

21. We commend the government in their adherence to the 85 d B (A) TWA, despite much industry pressure. We do hope, however, that the spirit of these regulations with the emphasis on engineering controls

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Brief to the

ROYAL COMMISSION ON MATTERS OF
HEALTH AND SAFETY ARISING FROM
THE USE OF ASBESTOS IN ONTARIO

Submitted by

THE UNITED ELECTRICAL, RADIO AND
MACHINE WORKERS OF AMERICA (UE)

Dick Barry, President

William Woodbeck, Vice-President

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January 16, 1981

And as a result of that optimism the British Parliament decided not to allow compensation for asbestos-related disease--but worse than that--no comprehensive study of the "miracle mineral" was undertaken. Due to this inaction by those responsible in governments, asbestos industries and production facilities were maintained, and new uses of this now known health hazard were introduced into our society.

Instead of nipping a health hazard in the bud, the next ten years, 1900-1910, saw the use of asbestos increased by four times and the number of workers increased proportionately.

In 1911, again in Britain, the factory inspectorate went into some of the new asbestos factories and found there to be much dust. The inspector's report noted and we quote:

"Very defective provisions for exhausting the dusty process of asbestos manufacture. Long before any further growth of this trade, I hope that exhaust ventilation will be effectively applied."

That was in the annual report of the chief inspector of factories in Great Britain in 1911.

Basically what that inspector said was 'Let's not worry too much, now that we know, there's not going to be much more of a problem.'

As a result of optimism in the next decade asbestos production increased four times and the number of workers increased proportionately.

It was not until 1918 that the first hint of asbestos disease appeared on this continent, and that hint was found in a text published by Frederick Hoffman, Vice-President of Prudential Life Insurance Co. entitled Respiratory Diseases In The Dusty Trades.

Dr. Hoffman noted that insurance companies would not give insurance to asbestos workers. Therefore, in 1918 we had the first scientific infor-

mation that health damage could occur if one were exposed to asbestos. However, optimism continued and as a result asbestos production doubled in the decade between 1920 and 1929, and with it the work force.

Big asbestos corporations and their supporters in government placed profits before people and continued the policy of further expansion of the industry regardless of its human toll. This decision was to lead to increasing illness to working people and their families, and an ever increasing burden on our health care system.

About 1930 some regulations were adopted in England supposedly to prevent the exposure of workers to asbestos dust, but apparently, according to the record, either not enforced, or riddled with loopholes.

In 1930 an article was published in the United States titled The Pulmonary Asbestosis Menace which contained this quote from the Insulation Workers union president:

"Look, I've been reading articles from Britain saying that this asbestos dust could cause harm. What about it?" He was reassured, "There really is no problem."

Still no effective action by government. Production tripled in the 1930s and the number of workers exposed to asbestos dust increased vastly.

Following the 30s and the advent of World War II, dozens of new factories were established to make asbestos products for the war effort. More people went to work in the asbestos industry and it was assumed that somebody was taking care of things. Unfortunately, as it turned out, there was no "somebody."

The next decade revealed the relationship of asbestos to a rare form of cancer, mesothelioma. In spite of this, no restrictions were placed on asbestos production and no safety measures were undertaken. There was a doubling of asbestos production in the 1950s and asbestos production

has increased ever since.

We must ask ourselves what was behind the thinking of governments to allow those responsible to turn a blind eye to such a serious health hazard and allow the consequences to be suffered by all who came in contact with asbestos.

Corporations, in this case asbestos corporations, and those involved in the manufacturing of asbestos products were given a free hand, by their "friends" in government, to increase asbestos production with no attention to the known health effects that asbestos mining and its ultimate use would place on society, in order to maximize their profits.

This criminal negligence is still practiced today in the asbestos industry and other workplaces. This is allowed with the full knowledge of government whose responsibility it is to protect the health of its citizens.

By early 1970 millions of tons of asbestos have been installed in buildings, in our construction sites, in refineries, in chemical plants, in manufacturing factories, in our schools, and yes, in our homes. We now have millions of tons of asbestos in place and as we read each and every day, we have the dead and diseased workers to prove that no one listened back in 1899, or in the 30s or in the 50s, and what our brief is all about is to hope that this commission will listen, and do more than add another chapter to the devastating history of the use of asbestos.

Proof that the industry has not learned its lesson, or become responsible to anyone but its shareholders is seen in the following remarks made by a technical advisor to the Quebec Asbestos Mining Association to the first public meeting of this commission on October 31, 1980:

"In the last two decades, major improvements have been made in the asbestos industry and, at present, the most sophisticated equipment used in modern plants, and the efficient training of operators has not made it possible to attain a time-weighted average of one fibre per cubic centimetre. On the other hand, scientific epidemiological surveys have also shown that with a dust concentration averaging two fibres per cubic centimetre, the health of the workers is well-protected."

This sounds too much like the discussions and recommendations that have been made by commission after commission over the past 82 years since health hazards associated with asbestos were recognized.

Each decade since has seen recommendations and reports that said now that we recognize the hazard, we will do something about it.

We know all too well what was done and not done, and we again refer to your first public meeting on October 31, 1980, and quote from one of the participants at that session:

"We were cut off everything. My husband emigrated to this country in 1951...never drew sick benefits; no unemployment insurance; no welfare; no Canada pension. His honesty destroyed him...and most of our close friends and neighbours also worked at the plant, and they are all dead now. And since my husband passed away we have lost, in 25 months, 25 other Johns-Manville workers...and it's hard to believe that is is 1980, and it's happening in this country."

Dr. Irving Selicoff tells a story about a visit from a union health and safety committee to his office one day. These workers told him that when they went to visit a fellow worker in the hospital whom they knew to have asbestos disease, they would quietly take all the mirrors off the walls of the hospital room. They have learned that about four or five weeks before a worker dies this should be done so that the worker cannot see himself over these last few weeks of slow death (see exhibit #1a and b).

We do not wish to have to take the mirrors off the walls of our fellow workmates' hospital rooms--we do wish to begin to do something about this problem of asbestos.

The foregoing is a brief history of asbestos from the time it was first recognized in 1899 as being a health hazard up to the present day.¹

Daily stories in our newspapers show the terrible tragedies that we will now have to witness because of failure to prevent asbestos exposures in the past (see exhibit #2).

And these exposures took place in all industries and in all communities. We would now like to mention the areas where those asbestos exposures were present in the electrical/electronics industry.

Companies in the electrical/electronics industry used asbestos panel board because it provided an excellent insulating panel on which to place many of the components used in manufacturing control equipment for steel mills, mines, pulp and paper industry.

The workers would cut, drill, and sand the panels daily, as part of their job, entirely without knowledge of the hazards, hence no protective equipment.

When the panels and their components were all in place, other workers would interconnect the components with asbestos covered wire, as specifications called for asbestos covered wire. It would not be uncommon to witness a worker inside one of these panel structures with asbestos covered wire dangling around his body.

This leads us to another area of asbestos exposure in our industry. Our members manufactured the asbestos insulated wire, and to our knowledge there are no known exposure records recorded in this industry.

Workers in the above-noted departments have testified before the Workmen's Compensation Board that "blizzard-like conditions" existed near the asbestos machines when the machines were cleaned or maintained. However, no readings are available to us. We have to rely on eye witnesses as evidence of the worker's exposure in the industry.

What we do know is that due to recent publicity given to asbestos and its hazards, many of our members can recall numerous cancers and other respiratory diseases of fellow workmates who they know worked with asbestos. So our story of tragedy has yet to be discovered and more importantly documented.

In the wire and cable industry it has come to our attention that talc, used to facilitate the flow of production in rubber covered wire manufacture, contains asbestos.² How many workers exposed, we do not know.

Many of our membership work in large and small appliance industries and they have come in contact with asbestos in many applications. Asbestos was used in ranges, dryers, refrigerators, toasters, irons and their cords, hair dryers and the list goes on.

Other large areas of worker exposure in our industry fall into the category of protective devices used in the many welding processes associated with the electrical/electronics industry e.g. protective gloves, blankets and curtains.

Fabricating shops contain large numbers of machines with brakes containing asbestos to control the machines. This not only exposes the maintenance people but also those who work in the area, or indeed, people walking through on their way to other areas.

Our union is now attempting to identify the exposure of workers in the electrical/electronics industries, and has been successful before the Workmen's Compensation Board in obtaining benefits and a pension for a former member's family.

How many more asbestos related illnesses and deaths we will have in the future one cannot estimate, but we know for certain there will be more.

We have so far talked about a brief history of asbestos followed by evidence of exposure to this health hazard in the electrical/electronics machine industry.

It would not be proper to address both these topics without having something to say about the horrendous arguments and outright denials and suppression of information that has been foisted upon working people over 82 years of asbestos history.

Denied the known truth about the health hazards of asbestos, working people have had to accept the risk that accompanied their job, whether it was in the asbestos industry or in other industries. Only recently, working people in Ontario began to learn some of the true facts about occupational disease and the ever increasing death and disease statistics that it leaves in its path.

Largely attributable to the Ontario Federation of Labour's occupational health and safety training and resource program, which had its beginning in 1978, for the first time in this province, workers are being taught how to identify occupational health problems in their workplaces and how to deal with them effectively. It is our contention that the Royal Commission become familiar with the Ontario Federation of Labour's occupational health program, with the view of assessing its importance to Ontario in the commission's findings.

Our union has taken advantage of the excellent training and educational opportunity that the Ontario Federation of Labour's program provided for our members. Because of this, we feel responsible to comment on the irresponsible policies adopted by industry with the aid of government, as it relates to the horror story associated with asbestos.

While we mentioned in the early parts of our paper that asbestos health hazards were recognized 82 years ago, it has become clear that governments and their studies, commissions, or committees 'look into the problem', only looked at the necessary conclusions that enabled the asbestos industry to prosper and proliferate.

Asbestos history shows that control by ventilation was tried, limits of exposure was tried and decreased as workers died and diseased bodies increased. Next came arguments that a little asbestos would not hurt, followed by "blue is dangerous, white is safe", which is just rhetoric. These are comments of industry sponsored spokesmen. None of them considered the worker's life or that of his/her family.

Who knows how many citizens have been exposed? We would suggest the figure runs into the millions. The World Health Organization concluded that upwards of 80% of cancer deaths can be associated with the workplace and its environment.

All of this because in the early 20th century commissions failed to recommend that the cessation of asbestos production would serve the public interest and nip a health hazard in the bud. The failure of past commissions and studies to come to grips with this fundamental approach to the issue, must not be repeated by this Royal Commission.

We recommend the following:

1. Non-essential uses of asbestos be eliminated and replaced by proven safe substitutes, with the objective of phasing out all uses of asbestos within three or four years.

2. Workers displaced due to the elimination of asbestos mining or production of asbestos products be retrained and reimbursed for all lost wages and benefits.

3. Rate retention be mandatory where workers contact asbestos related diseases and the rate to be indexed to the cost of living.

4. An Ontario register of asbestos-exposed people be set up and maintained.

5. The commission notify all victims of their exposure, including those unaware that they have been exposed to asbestos.

6. The commission list and publish the "3,000 or so products" that contain asbestos.

7. The commission research and publish all substitutes for asbestos.

8. The commission research products made of asbestos fibres which are so small that they are difficult to recognize by accepted measurement techniques.

Mr. Commissioner, we have endeavoured in all the foregoing to place before your commission the concerns of our union on behalf of our members, and indeed on behalf of all Ontario citizens. Our brief is not meant to be complete in detail as to all the effects of asbestos exposure to those workers and their families whom we represent, but hopefully what we have placed before you shows to your commission our deep concern for our substantial and direct interest in the proceedings of your work.

Our union is in full support of the Ontario Federation of Labour's more comprehensive brief that is being submitted on behalf of all citizens of Ontario. The health of our generation and that of our children must not be sacrificed as has that of our forebearers, to profits of the corporations.

¹Much of the history of asbestos was taken from Dr. Irving Silicoff's presentation to the "Lost In The Workplace Conference", Chicago, September, 1975.

²Our union has had the talc "Pulprotalc" analyzed for asbestos content. The lab analyst suggested that the asbestos fibres evident in this talc were "unusually" small. The matter to be investigated, and we hope this commission will do so, is whether manufacturers are producing products containing asbestos with asbestos fibre so small as not to be counted because of their minute size, in other words, less than the 5 micron in length that is to be measured by regulation.



Ted Powell was "fair" in St. Joseph's Hospital today.

steelworker prays for life

July 5, 1980
BRIAN CHRISTMAS
Spectator Staff

Exhibit 1a.
(See over)

By BRIAN CHRISTMAS
Spectator Staff

TED POWELL spent most of his trade union life fighting for improvements to the standards of health and safety in the workplace.

Now he is "praying like hell" for his own life in a fight against a disease which was caused by unhealthy working conditions.

The 60-year-old Hamilton steelworker is in hospital with lung cancer, and the Workmen's Compensation Board has agreed his illness can be linked to asbestos fibres he breathed during two decades of work at Stelco.

Mr. Powell knows his odds of surviving the cancer are slim but, true to form, he will not go down without a fight.

"I'd be foolish to ignore the possibility of dying in the next few years, or the next few months," he said in an interview at his St. Jo-

seph's Hospital bedside.

"I know, in fact, (death) is a probability. But I have that feeling, like we all have I suppose, that I'm going to buck it," Mr. Powell said.

"I'm going to co-operate fully with all the medical people. I'm going to pray like hell."

Mr. Powell has played a strong, but quiet, role with United Steelworkers of America — both at Local 1005 in Hamilton and the union's national office — plus labor and community organizations in the city.

Early years

In the late 1950s, Mr. Powell was one of the leaders of the union crusade for safe working conditions at a time when the workforce was more interested in higher wages.

And during those early years at Stelco, Mr. Powell said, he was

unaware that asbestos was beginning to deal him a cruel blow — which he did not feel until last fall. But he feels no bitterness toward Stelco.

"I didn't know about the dangers of asbestos. I am prepared to assume the company didn't either," said Mr. Powell, a Liverpool native who began repairing train locomotives and steam derricks at Stelco in 1956.

He came in direct contact with asbestos while removing insulation around the steam locomotive and derrick boilers and in the repair and replacement of the large brake linings on the locomotives.

"We would strip most of the insulation off and just drop it on the floor," he said. "The whole place would be exposed to a considerable amount of asbestos. Even if we worked on something else we'd still get the exposure through the machinery."

● Continued on page 3

Steelworker faces battle of his life

● Continued from page 1

Mr. Powell said improved safety standards — such as respirators and modified materials — have reduced the risk of asbestos exposure in the repair shop.

But it wasn't always this way.

In fact, it was not until 1969 that the union won significant contract clauses on general health and safety; Mr. Powell said, and he suspects membership apathy on health and safety was partly to blame for this.

"There was no clamor from the plants. When it came to a contract, nobody ever said: 'What does the safety and health clause read?' They would say; 'How much an hour, how much vacation pay and how much shift premiums?'"

Mr. Powell, who still wears his work safety glasses because they are most comfortable, was secretary of Local 1005's health and safety committee, occasionally filling in as chairman.

He also worked in the safety, health and education department of the steelworkers' national office in Toronto in 1976 and 1977, under former director Bill Mahoney.

He was on the human rights committees of Hamilton and District Labor Council and the Ontario Federation of Labor, and he belonged to SHAIR, an educational centre for human rights.

Mr. Powell said he preferred to take a low-key approach to educating the public on human rights and union issues.

"I'd rather plan programs, prepare them and do them quietly," he said.

Now he is trying to adjust to his bedridden life and the various medical treatments for cancer.

Mr. Powell said signs of the cancer appeared suddenly one day last September, when he had difficulty breathing.

"Over the years I never had any

inkling there was anything wrong," he said.

Tests showed his right lung was filled with fluid, preventing breathing. Doctors later diagnosed his illness as lung cancer, spawned by asbestos fibres.

Mr. Powell was the first area resident to receive a temporary total disability pension from the WCB, when it agreed his cancer was work-related.

But he wonders why more people have not made similar claims considering the wide use of asbestos in factories and buildings.

Mr. Powell said the \$266-per-week pension will help his financial situation. His wife, Rita, 48, works in the accounting department of St. Joseph's Hospital.

However, financial security is relatively unimportant now, Mr. Powell said.

"The big thing is, will I ever get back to health again?"

Hamilton Spectator, Friday, August 1, 1980

Crusader for safer jobs loses his fight for life

TED POWELL, the steel worker who campaigned for healthier, safer conditions in the workplace, has lost his fight for life.

Mr. Powell, 60, died this morning of lung cancer which was caused by unhealthy working conditions.

His wife, Rita, said he spent the last two weeks of his life at home.

Mr. Powell was the subject of a Spectator story early last month that chronicled his strong, but quiet, role with the United Steelworkers of America, both at Local 1005 in Hamilton and the union's national office.

In the late 1950s, Mr. Powell was one of the leaders of the union crusade for safe working conditions at a time when the workforce was more interested in higher wages.



TED POWELL
Lung cancer

And during those early years at Stelco, Mr. Powell said, he was unaware that asbestos was beginning to deal him a cruel blow which he would not feel until last fall.

The Workmen's Compensation Board agreed his illness can be linked to asbestos fibres he breathed during two decades of work at Stelco.

He knew his odds of surviving the cancer were slim, but true to form, he did not go down without a fight.

"I'd be foolish to ignore the possibility of dying in the next few years, or the next few months," he said last month at his St. Joseph's Hospital bedside.

"I know, in fact, (death) is a probability. But I have that feeling like we all have I suppose, that I'm going to buck it. I'm going to pray like hell."

J.B. Marlatt Funeral Home on Main Street East is handling arrangements which are incomplete.

35-year-old employee of Bendix becomes 13th victim of asbestos

WINDSOR (CP) -- A 35-year-old man has become the 13th victim to die of an asbestos-related cancer after working at one of the two Windsor plants of Bendix Corp., the man's union representative and closest friend says.

Tommy Dunn, who worked for almost 12 years in the welding department of one of the plants, died on Saturday.

Doctors operated on Mr. Dunn in December, 1979, for mesothelioma, a rare form of inoperable cancer linked to asbestos fibres. They discovered two tumors in an advanced stage in his lung and gave him a maximum of two years to live.

Rick Byrne, former plant chairman for Local 195 of the United Auto Workers, who worked with Mr. Dunn for 11 years, and other union negotiators have taken the cases of 19 Bendix workers to the Workmen's Compensation Board.

Thirteen of the 19, including Mr. Dunn, have died of asbestos-related diseases.

Mr. Byrne said Mr. Dunn asked him to check with the board to see whether he was eligible for benefits. After long negotiations, the board decided Mr. Dunn's illness made him suitable for compensation and he received payment retroactive to November, 1979.

However, Bendix, which uses

asbestos in the manufacture of automotive brake linings, has never acknowledged that it was directly responsible for Mr. Dunn's illness. Mr. Byrne said Mr. Dunn was one of those concerned that Bendix did not completely comply with a 1966 Government request to clean up its plants.

"They were supposed to clean it up in 1966 and Tommy didn't know why they didn't clean it up."

Now, however, Mr. Byrne said that although the union has made some headway, negotiations will be tougher because Bendix closed its two Windsor plants last August.

"What can you change now — they're gone."

Globe and Mail, January 6, 1981

037



I shall stick to my gun till the end,
and I shall die in pride and dignity...

John Dade. 27-1-1920 - 27-7-1978.
Walter Pittie.

INTRODUCTION

Odette Dodds, the late John Dodd's widow...

December 21st, 1980, I left Canada for England to spend the Holiday Season with my late husband's family.

John's Mother has just reached the ripe old age of ninety and is broken-hearted over his death!...

We still all are!...

It is good to be back home and I don't think it is too late to wish everyone the very best for 1981.

Now that I am back in Canada, we are going to need it!

August 7th, 1953, I immigrated to Canada. Not only was I excited about my new country but also a new life, a new language to learn; believe me, it was not easy.

I do have trouble with my language, I like to write things the way I feel and the way they happen, the truth!...

So please, just let me hurt your feelings, but do not worry about it.

Odette Dodds

THE GOOD OLD DAYS

It was the good old days, when my husband used to say to me, "I don't need the very best, because I have the very best, referring to me, two good kids I love very much, a boy, a girl, the wish of a King, a home, our home, a little icing on our cake, a few pennies for the rainy days, an early retirement, a brighter, promising future, but I never thought my husband's daily work, our bread and butter, icing on our cake, would turn 25 years later into an early grave."

Hard to believe... No! That's the way it happened.

Always,

John and Odette Dodds

DYING FOR A LIVING

~~Johns-Manville Company never mentioned health hazards to their workers and families.~~

Through Johns-Manville negligence, many asbestos workers have lost their health and life.

"My husband was one of them."

WHY?

If the Company had revealed the danger, no doubt about it, the men would have lived and worked in fear and panic, it would have affected the worker physically and mentally.

By leaving the employees in the dark about the danger, asbestos the magic mineral with dust that kills. The biggest industrial killer in history, they were able to abuse their employees, taking away the best years of their lives, for their own purpose and fattening their own pockets.

That is why at this time of age, we are having a disaster.

Dying for a living!...

Odette Dodds

ONE LONG FUNERAL MARCH

Once again the Johns-Manville flag is half-mast. December, 1980, just before Christmas. We have lost another Johns-Manville asbestos worker.

"Number sixty-five."
Rest in peace, we won't forget you!...

My life became part of one long funeral march. Every time I hear about a fellow worker's death, I am dying too, asking myself who's next, reliving all over again my own tragedy.

It is a nightmare without ending and when I think about it, all this could have been prevented.

Many people may find that I come on too strong. One of these days, you are going to love me for it.

I have been hurt so much, it does not hurt anymore. The worst part of it is: People do make you change, you do not trust anyone, anymore...

So please, whoever you are, listen to me for our own good and the welfare of our country.

Odette Dodds

AN EARLY GRAVE

The day my husband passed away, July 27, 1978, I started to make the late John Dodds' file.

I knew in my heart somehow the W.C.B. would classify my husband's death as not compensable.

My fears were proven to be correct when I received a letter from the Board. It read, "Dear Mrs. Dodds, I regret to inform you..."

The fight was about to begin.

Unfortunately, my fight has cost a great deal of time and money. However, like the mythological phoenix, I have risen from my ashes and made myself a much stronger person, indeed a fighter...

On many occasions people have advised me to give it all up. I could not, because I knew the system was wrong and I had to do something about it, not just for my sake but for the sake of John's fellow workers and above all, for the memory of my dear husband... I promised him I would carry on, and carry on I have.

I have spent countless hours, wading through reports on asbestos and the harmful effects this has on a person. When I started, I knew very little, however, now I know an ocean of facts, facts which prove to me something had to be done.

Something has been done!

The past twenty-six months have been hell. I received from the Canadian Pension plan the princely sum of \$135.00 per month. How can a person live on such a meager pitance. Can anyone here tell me how do you eat, pay the mortgate, hydro and other incidentals out of that, you just can't.

Fortunately, I had our savings, a nest-egg put by, for our old age... unfortunately, the nest-egg was not used for our pleasure, it was used to help ease my pain.

We were not rich, however, we were frugal. We managed to save. I thank God I had this money because any proud person cannot live on charity and charity would have been the only answer if it had not been for our endeavours in the past...

Thank you, dear, I could not have done it without your help.

I have also enjoyed the legal support of the Union, in my epic fight.

PLEASE NOTE...

I have never received a single dime from the Union other than the money, which they have expended on my case.

I am sure that there has been rumblings from many quarters and there may even be bitterness at the depletion of the Union funds, however, if the fight produces the Justice which we hoped and prayed for at the outset, then it will be dollars well spent.

Money cannot replace health, however, it certainly helps ease the pain,

It provides the sick worker with, I hope, the little comforts he needs and if as in over 60 cases in the past a fatality occurs, the widow of the deceased will be able to carry on, without the struggle I have had.

I hope and pray we will be able to eradicate the menace of asbestos and I hope my fight, with of course, the help of the Union, has helped bring Justice to the victims of a hideous industrial disease.

Odette Dodds

A UNION PRESIDENT

October 31, 1980. First Public Meeting in Toronto.

As former Union President Charlie Neilson said there is a total war on, between the workers, the Company, the Compensation Board and the government.

For many years, Charlie Neilson has been devoting most of his time, given the best years of his life to bring security and justice for the workers' families and us widows...

To my knowledge, and sorrow, with very little support from the working people.

Deep in my heart Charlie Neilson will always be a Union President.

MR. NEILSON, MAY THE GOOD YOU'VE DONE FOR OTHERS BE
RETURNED TO YOU...

Does not matter what you do or what you say, you will always find people for you and against you. Listen to the gossips, but don't believe them. Your happiness, sometimes makes the unhappiness, .. the envy of someone else.

As you grow older, you become wiser. The worst part of it is: you get old too fast and wise too late...

Let's face the facts of life, it takes all kinds of people to make this world go round, no one is perfect. ("No one, that is, except me!...")

Odette Dodds

Rest in peace sweetheart. I shall live on with pride and respect and keep up the good work which were your desires.

I shall stick to my gun till the end. We shall stick to our guns till the end, and when my time has come, I wish to be buried upside down so the world may kiss my ass, I deserve it...

John, I will never forget you. Amen!

Always, John & Odette Dodds and
Family

REST IN PEACE, WE WON'T FORGET YOU

Now, lets all stand up and have a few minutes of silence and respect in memory of the late John Dodds and for all the Johns-Manville workers, all the workers everywhere and families who lost their life with industrial disease.

From all my heart, I thank you. God bless, we all need it.

And also, lets keep our wonderful country of ours, Canada, together.

Quelques minutes de silence et de respect ou la m'emoire de John Dodds, aussi pour tout les ouvriers de Johns-Manville, pour tout les ouvriers de toute part et les familles qui ont perdu leur vie a cause des maladies industrielle.

De tout coeur, merci et que dieu nous benisse,
nous en avons grand besoin. Amen...

If I may, my family and I would like to take the opportunity to thank all the people who supported us, before and after our on-going tragedy.

Sincerely,

Odette Dodds and Family

Introduction.

Odette Dodds, the late John Dodds's widow...

December 21th 1980 I left Canada for England to spend the Holiday-Season, with my late husband's family.

John's Mother has just reached the ripe old age of ninety and is broken hearted over his death! We still all are!..

I had a snaking Xmas and a folly New-Year. It is good to be back home and don't think it is too late to wish everyone, the very best for 1981. Dad, that I am back in Canada, we all going to need it.

August 7th 1953, I immigrated to Canada. Not only was I excited about my new country but also a new life, a new language to learn, believe me, it was not easy.

I do have trouble with my language, I like to write things the way I feel and the way they happen, the truth!..

So please, just let me feel your feelings but do not worry about it.

Odette Dodds.

The good old days.

It was the good old days, when
my husband used to say to me "I don't
need the very best, because I have the very best,
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Hard to believe. No! That's the way
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John and Virella Diddens

Rest in peace, John.

John Diddens

Dying - For a living.

John's Manville Company never mentioned health hazard to their workers' and families.

Through John's Manville negligence many asbestos workers I has lost their health and life. "My husband was one of them."

Why?

If the company had reveal the danger, or doubt about it, the men would have live and work in fear and panic, it would have affected the worker physically and mentally.

By keeping the employees in the dark about the danger, it keeps the asbestos mineral with just that. The biggest industrial killer in history, they were able to abuse their employees, taking away their best years of their life, for their own purpose and fattening their own pockets.

That is why at this time of age, we are having a disaster.

Dying for a living!.. *Walter Dohle.*

One long Funeral march

Once again the John's Manville flag, is half mast.
December 1980. Just before Christmas.
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"Chumber sixty five."
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It is a nightmare without ending and when I think about it, all this could have been prevented.

Many people may find, that, I come on too strong.
One of this day, you are going to love me for it.

I have been hurt so much, it does not hurt any more, the worse part of it is: People do make you change, you do not trust anyone, anymore!..

So please, who ever you are, listen to me, for our own good and the welfare of our country!!

Thierry D. dit.

An early grave., by Velma Dadds

The day my husband passed away July 27th 1978, I started to make the late John Dodds file. I knew in my heart somehow the W.C.B. would classify my husband's death as not compensable. My fears were proven to be correct when I received a letter from the Board, it read: Dear Mr. Dodds, I regret to inform you!...

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Unfortunately, my fight has cost a great deal of time and money. However, like the mythical phoenix, I have risen from my ashes and made myself a much stronger person! indeed, a fighter.

In many occasions people have advised, give it all up. I could not, because I knew the system was wrong and I had to do something about it, not just for my sake but the sake of John's children and above all, for the memory of my dear husband... I promised him, I would carry on, and carry on, "I have."

I have spent countless hours reading through reports on asbestos and the harmful effects

2.
This lies on a person. When I started I knew
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any one here tell me how do you eat, pay the
mortgage, hydro and other incidentals out of that,
you just can't.

Fortunately, I had our savings, a nest-egg,
put by, for 'fair' old age.... unfortunately, the
nest-egg was not used for our pleasure, it was
used to help ease my pain.

We were not rich, however, we were poor
we managed to save, I thank God, I had this
money. Because any 'proud' person cannot live on
charity and charity would have been the only ans-
wer if it had not been for our enticatus in
the past ...

Thank you, dear, I could not have done it
without your help.

I have also enjoyed the loyal support of the Union,³
in my epic fight. Please note.

I have never received a single dime from
the Union other than the money, which they have
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I am sure there has been rumblings from
many quarters and there may even be bitterness at
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sick worker with I hope, the little comforts he
needs and if as in over 60 uses in the past
a fatality occurs, the widow of the deceased will
be better to worry in, without the struggle. That kind

I hope and pray we will be able to
 vindicate the memory of asbestos and I hope my
 fight with of course the help of the Union has
 helped bring justice to the victims of asbestos
 industrial disease.

Clifford Dadds.

One princely sum of.... per month!

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MRS. ODETTE DODDS 53 RIDEOUT ST. AJAX, ONT. L1S 1P9		Sept. 5, 1978		\$ 1131.82	
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A Union President.

October 31st 1980. First public meeting in Toronto.

As former Union President Charlie Wilson said, there is a total war on, between the workers, the Com-

pany, the Compensation Board and the government.

For many years, Charlie Wilson has been fighting most of his time, given the best years of his families and us workers!

To my knowledge and sorrow with

very little support from the working people.

Deep in my heart, Charlie Wilson will

always be a Union President.

Mr. Neilson, may the good you've done for others

— Be returned to you

Does not matter what you do or what you say, you will always find people for you and against you. Listen to the gossips but don't believe them. Your happiness, sometimes makes the unhappiness, the envy of some one else.

As you grow older you become wiser. The work part of it is: you get old too fast and wise too late....

Let's face the facts of life, it takes all kinds of people to make this world go round, no one is perfect. ("No one is, that is, except me!...")

Valerie Dadds.

in peace Sweet heart I shall live on
pride and respect and keep up the
work which were your desires.

I shall stick to my gun till the end
I shall stick to our guns till the end, and
when my time has come, I wish to be
nied upside down so the world
may kiss my ass, I deserve it.

John Dodds
27-1-1920 - 27-7-1978
Rest in peace, John

John, I will never forget you.
Damen!

Always: John and Odette Dodds Family

Rest in peace, we won't forget you.

Now, lets all stand up and have a few minutes of silence and respect in memory of the late John Dodds and for all the John's Manville workers, all the workers everywhere and families who lost their life with fibrotic disease

From all my heart, I thank you.
God bless, we all need it.

And also lets keep our wonderful country of ours, Canada, together

Quelques minutes de silence et de respect, en la mémoire de John Dodds, aussi pour tout les ouvriers de John's Manville pour tout les ouvriers de cette part et les familles qui ont perdu leur vie à cause des maladies fibrotiques

De tout coeur, merci et que Dieu nous bénisse
nous en avons grand besoin.

et nous.....

If I may my family and I, would like to take the opportunity to thanks all the people who supported us, before and after our on going battle.

Sincerely
John Dodds and Family



Final (38)

ONTARIO ASSOCIATION OF SCHOOL BUSINESS OFFICIALS

SUITE N-1201 • 252 BLOOR STREET WEST • TORONTO, ONTARIO M5S 1V5
AREA CODE 416 • TELEPHONE 923-3107

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President: J.H. Morris
Past-President: D.G. Timmins
President-Elect: R.L. Spencer
Vice-President: E.J. Paquet

Executive Secretary: J.W. Boich

1981 February 11

Royal Commission on Matters
of Health and Safety Arising
from the Use of Asbestos in
Ontario

180 Dundas Street, West,
22nd floor,
Toronto, Ontario.
M5G 1Z8

Dear Ms. Kahn:

The attached brief is submitted by the Operations, Maintenance and Construction Committee of the Ontario Association of School Business Officials.

Representatives of O.M.C. Committee will be pleased to accept the Commissioners invitation to present the brief and answer questions on Thursday, February 19, 1981, at 10:00 a.m.

Yours very truly,

Douglas A. Craig, MRAIC,
Assistant Superintendent-Plant.

attach.
/kg

The Ontario Association of School Business Officials

To The Chairman of
The Royal Commission on
Matters of Health and Safety
Arising from the Use of
Asbestos in Ontario.
Queens Park, Toronto, Ontario.
Canada, M7A 9Z9.

A Brief to the Royal Commission on Asbestos

The Ontario Association of School Business Officials is made up of Senior,
Middle and Junior Management non-teaching personnel in School Boards in Ontario.

This brief was prepared by the Operation, Maintenance and Construction Committee
of O.A.S.B.O.

As Resource Staff in the Educational System, we feel a special responsibility
for the safety and well being of all persons using the school system. We are
concerned primarily, nevertheless for children, teachers and non-academic staff
who may be exposed to the possible long term effects of the use of asbestos
in schools.

Background Information

In order to prepare this brief, Operations, Maintenance and Construction
Committee members have taken, among other actions, the following:

- (1) Attended The Royal Commission's Hearing of October 31, 1980 and
December 12, 1980.
- (2) Attended a Seminar in Baltimore U.S.A. in October 1979 on the effects of
Asbestos in Schools sponsored by the Council of Educational Facility Planners
International.
- (3) Attended various meetings held by O.A.S.B.O. and other affiliated
Organizations on this subject.

- (4) Conducted tests as long ago as 1975 and established that any asbestos conditions that existed were below the only recognized published standard.
- (5) Removed asbestos in schools used for learning purposes.
- (6) Issued safety bulletins along with masks to some workers as long ago as 1973.
- (7) Inspected all schools at the request of the Ministry of Education and initiated programs for the removal, enclosure or encapsulation of friable asbestos.

General Information

The O.M.C. Committee place in point form below, information which we believe has been confirmed.

- (1) There is no medical agreement on whether or not there is a safe dosage threshold for those persons exposed to asbestos.
- (2) Chrysotile asbestos appears to be safer because of its tendency not to disperse.
- (3) At the Royal Commission held on December 12, 1980, we learned from a Medical Authority, "It was likely that from 50 to 60% of the people in the room had asbestos bodies in their systems."
- (4) We have been informed that medical opinion is still very much in doubt of a hazard at low asbestos threshold levels.
- (5) We have been informed at the hearing of October 31, 1980 that there is a body of evidence which suggests that the shape of the asbestos fibre and not its size may cause health problems.
- (6) The state of the art in identifying asbestos in Ontario and Internationally, is imprecise. There is not a universal acceptable method of identifying or testing asbestos.

General Observations

We would like to make certain observations about the above information, our experience with this material and the actions of other agencies.

- (1) The matter of asbestos levels in the environment is a highly emotional issue. It appears that the dangers to the public inside public buildings, have been exaggerated.
- (2) We accept the fact that school buildings should receive special attention because of the possible latency period of any disease resulting from exposure to asbestos.
- (3) We believe that it cannot be expected to lower asbestos content in the air inside schools to a level lower than that existing outside in the atmosphere.

Recommendations

- (1) That the Commission endorse the existing program of providing a safe level of asbestos inside the schools of the Province of Ontario.
- (2) That School Boards continue to provide good house-keeping and inspection of schools where friable asbestos remains enclosed or encapsulated.
- (3) That the Ontario Ministry of Education continue to fund the program for the removal, enclosure or encapsulation of friable asbestos in schools.
- (4) That the Commission provide a standard for the allowable asbestos fibre content in the air in schools recognizing type, size and concentration of fibres, measurement, identification techniques available and the overall cost to the community.
- (5) That Industry be encouraged to research and develop substitute materials for friable asbestos, materials for the encapsulation of existing friable asbestos, and filtering systems to remove asbestos from the air.

- (6) That the Commission formulate regulations for the removal, transportation and disposal of friable asbestos in the Province together with the establishment of dump sites.
- (7) That Owners be required to keep a record of the location and condition of friable asbestos in all buildings.
- (8) That the Health Authorities initiate an awareness program to alert the public on the incidence of asbestos in the environment and the possible effects to health.

The Ontario Association of School Business Officials respectfully make the above recommendations and thank the Commission for the opportunity of submitting this brief.

Douglas A. Craig, MRAIC.
William Keith

/kg

DRAFT

1981 January 13

038

The Ontario Association of School Business Officials

To The Chairman of
The Royal Commission on
Matters of Health and Safety
Arising from the Use of
Asbestos in Ontario.
Queens Park, Toronto, Ontario,
Canada, M7A 9Z9.

A Brief To the Royal Commission on Asbestos

The Ontario Association of School Business Officials

This Association is made up of some 650 members representing a broad spectrum of Senior Middle and Junior Management personnel in virtually all School Boards in this Province. The personnel involved come from all sections of school system management. The Operations, Maintenance and Construction Committee have been given the task of preparing this brief.

As Resource Staff in the Educational System, we feel a special responsibility for the safety and well being of all those persons using the school systems. We are concerned primarily, nevertheless for children, teachers and non-academic staff who may be exposed to the possible long term effects of the use of asbestos in schools.

Background Information

In order to prepare this brief, we have taken among other actions, the following steps:

- (1) Attended The Royal Commission's Hearing of October 31, 1980 and December 12, 1980.

- (2) Attended a Seminar in Baltimore U.S.A. in October 1979 on the effects of Asbestos in Schools sponsored by the Council of Educational Facility Planners of the U.S. and Canada. ?
- (3) Attended various meetings held by our own association and by other affiliated Organizations on this subject.
- (4) Conducted tests as long ago as 1975 and established that any hazard which existed was substantially below the only recognized published standard.
- (5) Removed asbestos in schools for learning purposes.
- (6) Issued safety bulletins along with masks to some workers as long ago as 1973.
- (7) Co-operated with The Ontario Ministry of Education removing, enclosing or encapsulating friable asbestos in schools
- (8) Initiated actions of varying kinds being taken throughout the Province even though there seems to be a lack of solid evidence at the time of this brief to support such actions.

General Information

We place in point form below, information which we believe we have confirmed.

- (1) There is no medical agreement on whether or not there is a safe dosage threshold for those persons exposed to asbestos.
- (2) Chrysotile asbestos appears to be safer than many of the others because of its tendency not to disperse. ?

- (3) At the Royal Commission held on December 12, 1980, we learned from a Medical Authority, "It was likely that from 50 to 60% of the people in the room had asbestos bodies in their systems."
- (4) We have been informed that medical opinion is still very much in doubt of a hazard at low asbestos threshold levels.
- (5) We have been informed at the hearing of October 31, 1980 that there is a body of evidence which suggests that the shape of the fibre and not its content may be the culprit in the case of asbestos.
- (6) The state of the art in identifying asbestos in the Province, nationally and indeed internationally, is imprecise.

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There is not yet a common method of identifying asbestos.

General Observations

We should like to make certain observations considering the above information, our experience with many boards with this material and noting the actions of other agencies.

- (1) The matter of asbestos is a highly emotional issue. It appears levels in the environment that in the area of public buildings, it has been exaggerated.
- (2) We accept the fact that school buildings should receive special attention because of the unknown latency period of any disease resulting from the use of asbestos.
- (3) We believe that given the imprecise state of detection systems and the relatively unknown effects of asbestos fibres in low concentrations, the media should have a duty to report as much factual information as they can get.

- (4) We believe that schools cannot be expected to lower any asbestos content inside their buildings to a lower level than that existing outside their buildings.

Recommendations

- (1) That the Commission endorse the existing program of providing a safe level of asbestos environment in the schools of the Province of Ontario.
- (2) That School Boards continue to provide good house-keeping and inspection in schools where friable asbestos remains enclosed or encapsulated.
- (3) That the Ministry of Education continue to fund the program for the removal, enclosure or encapsulation of friable asbestos in schools in the Province of Ontario.
- (4) That the Commission provide a standard for the allowable asbestos fibre content in the air in schools recognizing type, size and concentration of fibres, measurement, identification techniques available and the overall cost to society.
- (5) That industry be encouraged to research and develop substitute materials for friable asbestos, safe materials for the encapsulation of existing friable asbestos, and filtering systems to remove asbestos from the air.
- (6) That the Commission formulate regulations for the removal, transportation and disposal of friable asbestos in the Province together with the establishment of dump sites.
- (7) That owners of all buildings be required to keep records of the location of friable asbestos in buildings and provide the public at all times with information on the location, condition and disposition of the material.

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ROYAL COMMISSION
on
A S B E S T O S

STELCO INC.
January, 1981

Stelco Inc.

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January 29, 1981

Royal Commission on Asbestos
180 Dundas Street West
22nd Floor
Toronto, Ontario
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Attention: Ms. Linda Kahn
Executive Coordinator

Dear Madam:

Stelco Inc. appreciates the opportunity to make a submission to the Commission on Matters of Health and Safety Arising from the Use of Asbestos in Ontario.

Stelco Inc. is neither a manufacturer of asbestos nor a major user and, therefore, we will not comment on most of the issues which your Commission is addressing. However, because of the high temperature processes involved in steelmaking operations, there are certain applications to which asbestos is essential, since it is the only available product at present for these applications. In other cases, asbestos is much superior to anything else on the market today.

A Register listing uses of asbestos has been established for each of our plants. Procedures have been established for controlling exposure and for proper handling and disposal of this material. A copy of our Asbestos Policy and a Material Safety Data Sheet are attached.

Our Company is making a strenuous effort to eliminate asbestos in the workplace on a case-by-case basis and, in many cases, alternative materials have been found and the use of these materials implemented.

However, asbestos is essential in uses such as gaskets in high temperature operations, brake linings, and certain personal safety equipment where equivalent alternate materials are not available.

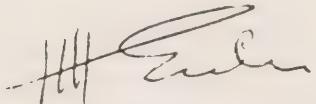
Therefore, because of these special uses, an outright ban on the use of asbestos is not practical at this time. In those cases where we addressed ourselves to controlling the exposure to acceptable levels we will continue our efforts to find practical alternatives to asbestos and to apply them as they become available.

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Therefore, we recommend to your Committee to take note of these essential uses and recognize them in any recommendations to the Minister of Labour.

Yours very truly
Stelco Inc.



H. H. Eisler
Manager, Environmental Control

HHE*k
Attach.

ASBESTOS POLICY - STELCO INC.

1. Overall Policy

The Company's objective is to provide a safe and healthful working environment for its employees.

To this end, the following policies apply to the use of asbestos and asbestos-containing materials.

2. Identification

Users of asbestos materials are required to provide an inventory or Register of asbestos uses in their areas and to update this Asbestos Register when it is reissued to them by the Environmental Control Department.

3. Asbestos Substitutes

Alternate materials should be substituted for asbestos whenever and wherever practical. The Engineering and Purchasing Departments are to give special attention to the elimination of asbestos in new projects and asbestos should not be specified unless it can be shown that no safer material is practical.

4. Precautions

Asbestos users should refer to the Asbestos - Material Safety Data Sheet for information pertaining to handling, protecting and storing of bulk asbestos fibre.

Separate Data Sheets will be prepared and distributed by the Industrial Hygiene group on request for other materials containing asbestos, i.e. cement/asbestos boards, asbestos gaskets, etc.

5. Disposal

Waste asbestos materials must be segregated and stored in suitable containers, as described in the Material Safety Data Sheet, for disposal in an acceptable manner. (See Appendix 1 - Asbestos Disposal.)

6. Insulation

In buildings or process equipment where insulation materials may contain asbestos, inspection of the condition of the insulation must be carried out. Appropriate procedures are to be instituted in consultation with the Environmental Control Department.

7. Stripping

To ensure the safety of employees working in scrap burning and processing areas, scrap pipe and tanks, etc. must be stripped of insulation for appropriate disposal. (See Appendix 2 - Stripping Asbestos.)

G. H. G. Layt
December 11, 1980

1. Asbestos, which is not in powder form, can be bagged in double plastic garbage bags. Powdered asbestos must be contained in a sealed drum. The asbestos must be in one of these forms of containment before transportation of the material is requested.
2. A central collection location should be established for asbestos in each plant, and special disposal arrangements must be made for approved off-site disposal.
3. The arrangements must have the approval of the Environmental Control Department.

The following are procedures to be followed:

1. Every effort must be made by Stelco personnel and contractors to control asbestos dust and to prevent personal exposure and environmental contamination.
2. Whenever possible, strip asbestos outside or in an open area away from other workmen. Ensure good ventilation to remove any airborne dust.
3. Always wet the asbestos with water to suppress dust prior to stripping; a wetting agent or surfactant in the water will facilitate this step.
4. Protective cotton overalls and leather-faced cotton gloves are recommended. These should be cleaned, following the job, in a manner which will prevent exposure to asbestos dust. For very dusty jobs, disposable coveralls are required.
5. An approved dust respirator MUST be worn by all workmen in the immediate area.

The following respirators will satisfy most provincial guidelines:

- (a) R1050 Disposable or R2090N Dust Mask (AOCO).
- (b) Dustfoe 66, 77 or 88 (MSA).
- (c) Comfo II with Type F, S or H filters and filter covers (MSA).
- (d) Model No. 8710, 9900, 9910 or 9920 (BUT NOT 8500), (3M Co.).
- (e) Model No. 560, 1210 or 1211 (Willson).

The Industrial Hygiene group should be consulted before using alternate models.

6. Clean up waste asbestos promptly; do not allow asbestos to remain on the job site.
7. Do not use compressed air or dry sweeping when cleaning up asbestos. After the material has been stripped, and if there is some dust to be collected, wet it down prior to clean-up. Sweeping compounds or vacuum cleaners with high efficiency (HEPA) filters may also be used.
8. Contact the Stelco Industrial Hygiene office at (416) 528-2511, extension 2815 or 2830, if further information is required.

- MATERIAL SAFETY DATA SHEET

ASBESTOS

RESTRICTED

For specified uses only. All uses require prior clearance.



FIRE HAZARD

- NONCOMBUSTIBLE.



HEALTH HAZARD

- DANGER! HARMFUL DUST.

1. DO NOT BREATHE DUST. USE ONLY WITH ADEQUATE VENTILATION.
2. Use approved respirator where exposure to dust can occur.
3. May be harmful if swallowed. Wash before eating.
4. No food, beverages or tobacco in asbestos handling areas.



CONTACT HAZARD

- CAUTION! CAUSES IRRITATION.

1. Do not get on skin, in eyes or on clothing.
2. Repeated skin contact with fibers may result in irritation. When handling, wear gloves.
3. Wash hands and other exposed areas after using

EMERGENCY

FIRE	NONCOMBUSTIBLE.
EXPOSURE	<p>EYES - Flush eyes with large quantities of water. Obtain medical attention.</p> <p>SKIN - Wash skin well with soap and water before eating, smoking and at the end of shift.</p> <p>INHALATION - Remove to fresh air. Obtain medical attention in cases of gross exposure.</p>
SPILL	Use the required personal protective equipment. Vacuum or wet and shovel spilled material and dispose in a sealed container. Do not dry-sweep.

ASBESTOS

PRECAUTIONS

HANDLING	<ol style="list-style-type: none"> Maintain good housekeeping; clean up scrap & spills promptly. Where practical, asbestos should be wet down before handling to suppress dust. Do not shake, dry-sweep or blow asbestos dust. Use wet or vacuum cleaning methods. The tear-out of old asbestos requires strict dust control.
STORAGE	<ol style="list-style-type: none"> Asbestos and asbestos waste should be stored and disposed of in impermeable, sealed bags and containers. Keep containers closed when product is not in use. Maintain good housekeeping. Clean up spills and repair damaged containers promptly.
PROTECTION	<ol style="list-style-type: none"> Respirators approved for asbestos dust should be worn whenever necessary to prevent dust exposure. Where contamination of clothing occurs, separate lockers for work and street clothes should be provided. All employees should receive periodic instruction in the hazards and necessary precautions.
CONTROLS	<ol style="list-style-type: none"> Total enclosure, segregation and local exhaust are the recommended controls for asbestos dust. Use approved substitutes such as glass or ceramic fiber where possible. Where asbestos is required, products specially treated to suppress dust emissions are preferred.

HAZARD EVALUATION

LIMITS	<u>Time Weighted Average Limit</u> <u>Serpentine - Chrysotile (White Asbestos;</u> $3 \text{MgO} \cdot 2\text{SiO}_2 \cdot 2\text{H}_2\text{O}$ 2.0 <u>Amphiboles - Crocidolite (Blue) Amosite (Brown)</u> <u>Anthophyllite, Tremolite, Actinolite</u> 0.2	<u>Fibers/cc Air</u>
EFFECTS	Long term inhalation of asbestos dust can result in asbestosis which is characterized by the formation of fibrous, scar-like tissue in the lungs. Increased risks for lung cancer, cancer of the digestive tract and mesothelioma (cancer of the tissues lining the chest and abdominal cavities) have been reported.	
TESTING	Tests for airborne asbestos fibers can be performed. Contact the Industrial Hygiene Engineer for further information.	



